

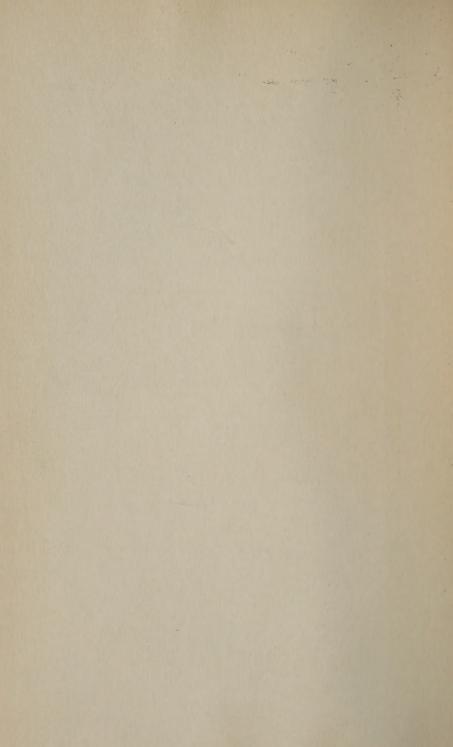
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UNDER THE MAPLES AND THE LAST HARVEST

BY

John Burroughs



BOSTON AND NEW YORK
HOUGHTON MIFFLIN COMPANY

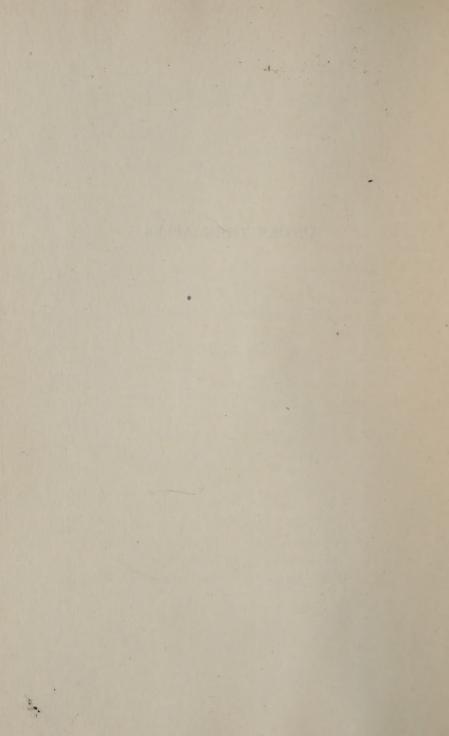
Che Hiverside Press Cambridge

1922

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PREFACE

It was while sitting in his hay-barn study in the Catskills and looking out upon the maple woods of the old home farm, and under the maples at Riverby, that the most of these essays were written, during the last two years of the author's life. And it was to the familiar haunts near his Hudson River home that his thoughts wistfully turned while wintering in Southern California in 1921. As he pictured in his mind the ice breaking up on the river in the crystalline March days, the return of the birds, the first hepaticas, he longed to be back among them; he was there in spirit, gazing upon the river from the summer-house, or from the veranda of the Nest, or seated at his table in the chestnut-bark Study, or busy with his sap-gathering and sugar-making.

Casting about for a title for this volume, the vision of maple-trees and dripping sap and crisp March days playing constantly before his mind, one day while sorting and shifting the essays for his new book, he suddenly said, "I have it! We'll call it *Under the Maples!*"

His love for the maple, and consequently his pleasure in having hit upon this title, can be gathered from the following fragment found among his miscellaneous notes: "I always feel at home where

PREFACE

the sugar maple grows It was paramount in the woods of the old home farm where I grew up. It looks and smells like home. When I bring in a maple stick to put on my fire, I feel like caressing it a little. Its fiber is as white as a lily, and nearly as sweet-scented. It is such a tractable, satisfactory wood to handle — a clean, docile, wholesome tree; burning without snapping or sputtering, easily worked up into stovewood, fine of grain, hard of texture, stately as a forest tree, comely and clean as a shade tree, glorious in autumn, a fountain of coolness in summer, sugar in its veins, gold in its foliage, warmth in its fibers, and health in it the year round."

CLARA BARRUS

The Nest at Riverby
West Park on the Hudson
New York

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I

THE FALLING LEAVES

THE time of the falling of leaves has come again. Once more in our morning walk we tread upon carpets of gold and crimson, of brown and bronze, woven by the winds or the rains out of these delicate textures while we slept.

How beautifully the leaves grow old! How full of light and color are their last days! There are exceptions, of course. The leaves of most of the fruit-trees fade and wither and fall ingloriously. They bequeath their heritage of color to their fruit. Upon it they lavish the hues which other trees lavish upon their leaves. The pear-tree is often an exception. I have seen pear orchards in October painting a hillside in hues of mingled bronze and gold. And well may the pear-tree do this, it is so chary of color upon its fruit.

But in October what a feast to the eye our woods and groves present! The whole body of the air seems enriched by their calm, slow radiance. They are giving back the light they have been absorbing from the sun all summer.

The carpet of the newly fallen leaves looks so clean and delicate when it first covers the paths and the highways that one almost hesitates to walk upon it. Was it the gallant Raleigh who threw down his cloak for Queen Elizabeth to walk upon? See what a robe the maples have thrown down for you and me to walk upon! How one hesitates to soil it! The summer robes of the groves and the forests-more than robes, a vital part of themselves, the myriad living nets with which they have captured, and through which they have absorbed, the energy of the solar rays. What a change when the leaves are gone, and what a change when they come again! A naked tree may be a dead tree. The dry, inert bark, the rough, wirelike twigs change but little from summer to winter. When the leaves come, what a transformation, what mobility, what sensitiveness, what expression! Ten thousand delicate veined hands reaching forth and waving a greeting to the air and light, making a union and compact with them, like a wedding ceremony. How young the old trees suddenly become! what suppleness and grace invest their branches! The leaves are a touch of immortal vouth. As the cambium layer beneath the bark is the girdle of perennial youth, so the leaves are the facial expression of the same quality. The leaves have their day and die, but the last leaf that comes to the branch is as young as the first. The leaves and

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the blossom and the fruit of the tree come and go, yet they age not; under the magic touch of spring the miracle is repeated over and over.

The maples perhaps undergo the most complete transformation of all the forest trees. Their leaves fairly become luminous, as if they glowed with inward light. In October a maple-tree before your window lights up your room like a great lamp. Even on cloudy days its presence helps to dispel the gloom. The elm, the oak, the beech, possess in a much less degree that quality of luminosity, though certain species of oak at times are rich in shades of red and bronze. The leaves of the trees just named for the most part turn brown before they fall. The great leaves of the sycamore assume a rich tan-color like fine leather.

The spider weaves a net out of her own vitals with which to capture her prey, but the net is not a part of herself as the leaf is a part of the tree. The spider repairs her damaged net, but the tree never repairs its leaves. It may put forth new leaves, but it never essays to patch up the old ones. Every tree has such a superabundance of leaves that a few more or less or a few torn and bruised ones do not seem to matter. When the leaf surface is seriously curtailed, as it often is by some insect pest, or some form of leaf-blight, or by the ravages of a hail-storm, the growth of the tree and the maturing of its fruit is seriously checked. To

denude a tree of its foliage three years in succession usually proves fatal. The vitality of the tree declines year by year till death ensues.

To me nothing else about a tree is so remarkable as the extreme delicacy of the mechanism by which it grows and lives, the fine hairlike rootlets at the bottom and the microscopical cells of the leaves at the top. The rootlets absorb the water charged with mineral salts from the soil, and the leaves absorb the sunbeams from the air. So it looks as if the tree were almost made of matter and spirit. like man; the ether with its vibrations, on the one hand, and the earth with its inorganic compounds, on the other—earth salts and sunlight. The sturdy oak, the gigantic sequoia, are each equally finely organized in these parts that take hold upon nature. We call certain plants gross feeders, and in a sense they are: but all are delicate feeders in their mechanism of absorption from the earth and air.

The tree touches the inorganic world at the two finest points of its structure—the rootlets and the leaves. These attack the great crude world of inorganic matter with weapons so fine that only the microscope can fully reveal them to us. The animal world seizes its food in masses little and big, and often gorges itself with it, but the vegetable, through the agency of the solvent power of waterabsorbs its nourishment molecule by molecule.

A tree does not live by its big roots--these arc

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mainly for strength and to hold it to the ground. How they grip the rocks, fitting themselves to them, as Lowell says, like molten metal! The tree's life is in the fine hairlike rootlets that spring from the roots. Darwin says those rootlets behave as if they had minute brains in their extremities. They feel their way into the soil; they know the elements the plant wants; some select more lime, others more potash, others more magnesia. The wheat rootlets select more silica to make the stalk; the pea rootlets select more lime: the pea does not need the silica. The individuality of plants and trees in this respect is most remarkable. The cells of each seem to know what particular elements they want from the soil, as of course they do.

The vital activity of the tree goes on at three points—in the leaves, in the rootlets, and in the cambium layer. The activity of the leaf and rootlet furnishes the starchy deposit which forms this generative layer—the milky, mucilaginous girdle of matter between the inner bark and the wood through which the tree grows and increases in size. Generation and regeneration take place through this layer. I have called it the girdle of perpetual youth. It never grows old. It is annually renewed. The heart of the old apple-tree may decay and disappear, indeed the tree may be reduced to a mere shell and many of its branches may die and fall, but the few apples which it still bears attest

the fact that its cambium layer, at least over a part of its surface, is still youthful and doing its work. It is this layer that the yellow-bellied woodpecker, known as the sapsucker, drills into and devours, thus drawing directly upon the vitality of the tree. But his ravages are rarely serious. Only in two instances have I seen dead branches on an appletree that appeared to be the result of his drilling.

What we call the heart of a tree is in no sense the heart: it has no vital function, but only the mechanical one of strength and support. It adds to the tree's inertia and power to resist storms. The trunk of a tree is like a community where only one generation at a time is engaged in active business, the great mass of the population being retired and adding solidity and permanence to the social organism. The rootlets of a plant or a tree are like the laborers in the field that produce for us the raw material of our food, while the leaves are like our many devices for rendering it edible and nourishing. The rootlets continue their activity in the fall, after the leaves have fallen, and thus gorge the tree with fluid against the needs of the spring. In the growing tree or vine the sap, charged with nourishment, flows down from the top to the roots. In the spring it evidently flows upward, seeking the air through the leaves. Or rather, we may say that the crude sap always flows upward, while the nutritive sap flows down-

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ward, thus giving the tree a kind of double circulation.

A tree may be no more beautiful and wonderful when we have come to a knowledge of all its hidden processes, but it certainly is no less so. We do not think of the function of the leaves, nor of the bark, nor of the roots and rootlets, when we gaze upon a noble oak or an elm; we admire it for its form, its sturdiness, or its grace; it is akin to ourselves: it is the work of a vast community of cells like those that build up our own bodies; it is a fountain of living matter rising up out of the earth and splitting up and spreading out at its top in a spray of leaves and flowers; and if we could see its hidden processes we should realize how truly like a fountain it is. While in full leaf a current of water is constantly flowing through it, and flowing upward against gravity. This stream of water is truly its life current; it enters at the rootlets under the ground and escapes at the top through the leaves by a process called transpiration. All the mineral salts with which the tree builds up its woody tissues, -its osseous system, so to speak,-the instruments with which it imprisons and consolidates the carbon which it obtains from the air, are borne in solution in this stream of water. Its function is analogous to that of the rivers which bring the produce and other material to the great cities situated upon their banks. A cloud of invisible vapor rises from the

top of every tree and a thousand invisible rills enter it through its myriad hairlike rootlets. The trees are thus conduits in the circuit of the waters from the earth to the clouds. Our own bodies and the bodies of all living things perform a similar function. Life cannot go on without water, but water is not a food; it makes the processes of metabolism possible; assimilation and elimination go on through its agency. Water and air are the two ties between the organic and the inorganic. The function of the one is mainly mechanical, that of the other is mainly chemical.

As the water is drawn in at the roots, it flows out at the top, to which point it rises by capillary attraction and a process called osmosis. Neither of them is a strictly vital process, since both are found in the inorganic world; but they are in the service of what we call a vital principle. Some physicists and biochemists laugh at the idea of a vital principle. Huxley thought we might as well talk about the principle of aqueosity in water. We are the victims of words. The sun does not shoot out beams or rays, though the eye reports such; but it certainly sends forth energy; and it is as certain that there is a new activity in matter—some matter—that we call vital.

Matter behaves in a new manner; builds up new compounds and begets myriads of new forms not found in the inorganic world, till it finally

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builds up the body and mind of man. Death puts an end to this activity alike in man and tree, and a new kind of activity sets in—a disorganizing activity, still with the aid of water and air and living organisms. It is like the compositor distributing his type after the book is printed. The micro-organisms answer to the compositor, but they are of a different kind from those which build up the body in the first instance. But the living body as a whole, with its complex of coördinating organs and functions—what attended to that? The cells build the parts, but what builds the whole?

How many things we have in common with the trees! The same mysterious gift of life, to begin with; the same primary elements—carbon, nitrogen, oxygen, and so on—in our bodies; and many of the same vital functions—respiration, circulation, absorption, assimilation, reproduction. Protoplasm is the basis of life in both, and the cell is the architect that builds up the bodies of both. Trees are rooted men and men are walking trees. The tree absorbs its earth materials through the minute hairs on its rootlets, called fibrillæ, and the animal body absorbs its nutriment through analogous organs in the intestines, called lacteals.

Whitman's expression "the slumbering and liquid trees" often comes to my mind. They are the words of a poet who sees hidden relations and meanings

everywhere. He knows how fluid and adaptive all animate nature is. The trees are wrapped in a kind of slumber in winter, and they are reservoirs of living currents in summer. If all living bodies came originally out of the sea, they brought a big dower of the sea with them. The human body is mainly a few pinches of earth salts held in solution by several gallons of water. The ashes of the living tree bulk small in comparison with the amount of water it holds. Yes, "the slumbering and liquid trees." They awaken from their slumber in the spring, the scales fall from their buds, the fountains within them are unsealed, and they again become streams of living energy, breaking into leaf and bloom and fruit under the magic of the sun's rays.

II

THE PLEASURES OF A NATURALIST

I

How closely every crack and corner of nature is packed with life, especially in our northern temperate zone! I was impressed with this fact when during several June days I was occupied with road-mending on the farm where I was born. To open up the loosely piled and decaying laminated rocks was to open up a little biological and zoölogical museum, so many of our smaller forms of life harbored there. From chipmunks to ants and spiders, animal life flourished. We disturbed the chipmunks in their den a foot and a half or more beneath the loosely piled rocks. There were two of them in a soft, warm nest of dry, shredded maple-leaves. They did not wait to be turned out of doors, but when they heard the racket overhead bolted precipitately. Two living together surprised me, as heretofore I had never known but one in a den. Near them a milk snake had stowed himself away in a crevice, and in the little earthquake which we set up got badly crushed. Two little red-bellied snakes about one foot long had also found harbor there.

The ants rushed about in great consternation

when their eggs were suddenly exposed. In fact, there was live natural history under every stone about us. Some children brought me pieces of stone, which they picked up close by, which sheltered a variety of cocoon-building spiders. One small, dark-striped spider was carrying about its ball of eggs, the size of a large pea, attached to the hind part of its body. This became detached, when she seized it eagerly and bore it about held between her legs. Another fragment of stone, the size of one's hand, sheltered the chrysalis of some species of butterfly which was attached to it at its tail. It was surprising to see this enshrouded creature, blind and deaf. wriggle and thrash about as if threatening us with its wrath for invading its sanctuary. One would about as soon expect to see an egg protest.

Thus the naturalist finds his pleasures everywhere. Every solitude to him is peopled. Every morning or evening walk yields him a harvest to eye or ear.

The born naturalist is one of the most lucky men in the world. Winter or summer, rain or shine, at home or abroad, walking or riding, his pleasures are always near at hand. The great book of nature is open before him and he has only to turn the leaves.

A friend sitting on my porch in a hickory rocking-chair the other day was annoyed by one

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of our small solitary wasps that seemed to want to occupy the chair. It held a small worm in its legs. She would "shoo" it away, only to see it back in a few seconds. I assured her that it did not want to sting her, but that its nest was somewhere in the chair. And, sure enough, as soon as she quieted down, it entered a small opening in the end of one of the chair arms, and deposited its worm, and presently was back with another, and then a third and a fourth; and before the day was done it came with little pellets of mud and sealed up the opening.

II

My morning walk up to the beech wood often brings me new knowledge and new glimpses of nature. This morning I saw a hummingbird taking its bath in the big dewdrops on a small ash-tree. I have seen other birds bathe in the dew or raindrops on tree foliage, but did not before know that the hummer bathed at all.

I also discovered that the webs of the little spiders in the road, when saturated with moisture, as they were from the early fog this morning, exhibit prismatic tints. Every thread of the web was strung with minute spherules of moisture, and they displayed all the tints of the rainbow. In each of them I saw one abutment of a tiny rainbow. When I stepped a pace or two to the

other side. I saw the other abutment. Of course I could not see the completed bow in so small an area. These fragments are as unapproachable as the bow in the clouds. I also saw that where a suspended dewdrop becomes a jewel, or displays rainbow tints, you can see only one at a time-to the right or left of you. It also is a fragment of a rainbow. Those persons who report beholding a great display of prismatic effects in the foliage of trees, or in the grass after a shower, are not to be credited. You may see the drops glistening in the sun like glass beads, but they will not exhibit prismatic tints. In only one at a time will you see rainbow tints. Change your position, and you may see another, but never a great display of prismatic tints at one time.

In my walk the other morning I turned over a stone, looking for spiders and ants. These I found, and in addition there were two cells of one of our solitary leaf-cutters, which we as boys called "sweat bees," because they came around us and would alight on our sweaty hands and arms as if in quest of salt, as they probably were. It is about the size of a honey bee, of lighter color, and its abdomen is yellow and very flexible. It carries its pollen on its abdomen and not upon its thighs. These cells were of a greenish-brown color; each of them was like a miniature barrel in which the pollen with the egg of the bee was sealed up.

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When the egg hatches, the grub finds a loaf of bread at hand for its nourishment. These little barrels were each headed up with a dozen circular bits of leaves cut as with a compass, exactly fitting the cylinder, one upon the other. The wall of the cylinder was made up of oblong cuttings from leaves, about half an inch wide, and three quarters of an inch long, a dozen of them lapped over one another, and fitted together in the most workmanlike manner.

In my boyhood I occasionally saw this bee cutting out her nesting-material. Her mandibles worked like perfect shears. When she had cut out her circular or her oblong patches, she rolled them up, and, holding them between her legs, flew away with them. I have seen her carry them into little openings in old rails, or old posts. About the period of hatching, I do not know.

III

Swallows, in hawking through the air for insects, do not snap their game up as do the true flycatchers. Their mouths are little nets which they drive through the air with the speed of airplanes. A few mornings ago the air was cold, but it contained many gauzy, fuzzy insects from the size of mosquitoes down to gnats. They kept near the ground. I happened to be sitting on the sunny side of a rock and saw the swallows sweep past.

One came by within ten feet of me and drove straight on to a very conspicuous insect which disappeared in his open mouth in a flash. How many hundreds or thousands of such insects they must devour each day! Then think of how many insects the flycatchers and warblers and other insect-eating birds must consume in the course of a season!

IV

WE little suspect how the woods and wayside places swarm with life. We see little of it unless we watch and wait. The wild creatures are cautious about revealing themselves: their enemies are on the lookout for them. Certain woods at night are alive with flying squirrels which, except for some accident, we never see by day. Then there are the night prowlers—skunks, foxes, coons, minks, and owls—yes, and mice.

The wild mice we rarely see. The little mole shrew, which I know is active at night, I have never seen but once. I once set a trap, called the delusion trap, in the woods by some rocks where I had no reason to suspect there were more mice than elsewhere, and two mornings later it was literally packed full of mice, half a dozen or more.

Turn over a stone in the fields and behold the consternation among the small folk beneath it,—ants, slugs, bugs, worms, spiders,—all object-

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ing to the full light of day, not because their deeds are evil, but because the instinct of self-preservation prompts this course. As I write these sentences, a chipmunk, who has his den in the bank by the road-side near by, is very busy storing up some half-ripe currants which grew on a bush a few yards away. Of course the currants will ferment and rot, but that consideration does not disturb him; the seeds will keep, and they are what he is after. In the early summer, before any of the nuts and grains are ripened, the high cost of living among the lesser rodents is very great, and they resort to all sorts of makeshifts.

V

In regard to this fullness of life in the hidden places of nature, Darwin says as much of the world as a whole:

Well may we affirm that every part of the world is inhabitable. Whether lakes of brine or those subterranean ones hidden beneath volcanic mountains—warm mineral springs—the wide expanse and depth of the ocean, the upper regions of the atmosphere, and even the surface of perpetual snow—all support organic beings.

Never before was there such a lover of natural history as Darwin. In the earth, in the air, in the water, in the rocks, in the sand, in the mud—he scanned the great biological record of the globe as it was never scanned before. During the voyage of

the Beagle he shirked no hardships to add to his stores of natural knowledge. He would leave the comfortable ship while it was making its surveys, and make journeys of hundreds of miles on horse-back through rough and dangerous regions to glean new facts. Grass and water for his mules, and geology or botany or zoölogy or anthropology for himself, and he was happy. At a great altitude in the Andes the people had shortness of breath which they called "puna," and they ate onions to correct it. Darwin says, with a twinkle in his eye, "For my part I found nothing so good as the fossil shells."

His Beagle voyage is a regular magazine of natural-history knowledge. Was any country ever before so searched and sifted for its biological facts? In lakes and rivers, in swamps, in woods, everywhere his insatiable eve penetrated. One re-reads him always with a different purpose in view. If you happen to be interested in insects, you read him for that: if in birds, you read him for that: if in mammals, in fossils, in reptiles, in volcanoes, in anthropology, you read him with each of these subjects in mind. I recently had in mind the problem of the soaring condor, and I re-read him for that, and, sure enough, he had studied and mastered that subject, too. If you are interested in seeing how the biological characteristics of the two continents, North and South America, agree or contrast with each other, you

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will find what you wish to know. You will learn that in South America the lightning-bugs and glowworms of many kinds are the same as in North America; that the beetle, or elator, when placed upon its back, snaps itself up in the air and falls upon its feet, as our species does; that the obscene fungus, or *Phallus*, taints the tropical forests, as a similar species at times taints our dooryards and pasture-borders; and that the mud-dauber wasps stuff their clay cells with half-dead spiders for their young, just as in North America. Of course there are new species of animal and plant life, but not many. The influence of environment in modifying species is constantly in his mind.

VI

The naturalist can content himself with a day of little things. If he can read only a word of one syllable in the book of nature, he will make the most of that. I read such a word the other morning when I perceived, when watching a young but fully fledged junco, or snowbird, that its markings were like those of the vesper sparrow. The young of birds always for a brief period repeat the markings of the birds of the parent stem from which they are an offshoot. Thus, the young of our robins have speckled breasts, betraying their thrush kinship. And the young junco shows, in its striped appearance of breast and back, and the

lateral white quills in the tail, its kinship to the grass finch or vesper sparrow. The slate-color soon obliterates most of these signs, but the white quills remain. It has departed from the nesting-habits of its forbears. The vesper sparrow nests upon the ground in the open fields, but the junco chooses a mossy bank or tussock by the roadside, or in the woods, and constructs a very artistic nest of dry grass and hair which is so well hidden that the passer-by seldom detects it.

Another small word I read about certain of the rocks in my native Catskills, a laminated, bluegrav sandstone, that when you have split them open with steel wedges and a big hammer, or blown them up with dynamite, instead of the gray fresh surface of the rock greeting you, it is often a surface of red mud, as if the surface had been enameled or electrotyped with mud. It appears to date from the first muddy day of creation. I have such a one for my doorstone at Woodchuck Lodge. It is amusing to see the sweepers and scrubbers of doorstones fall upon it with soap and hot water. and utterly fail to make any impression upon it. Nowhere else have I seen rocks casehardened with primal mud. The fresh-water origin of the Catskill rocks no doubt in some way accounts for it.

VII

WE are all interested students of the weather, but

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the naturalist studies it for some insight into the laws which govern it. One season I made my reputation as a weather prophet by predicting on the first day of December a very severe winter. It was an easy guess. I saw in Detroit a bird from the far north, a bird I had never before seen, the Bohemian waxwing, or chatterer. It breeds above the Arctic Circle and is common to both hemispheres. I said, When the Arctic birds come down, be sure there is a cold wave behind them. And so it proved.

When the birds fail to give one a hint of the probable character of the coming winter, what reliable signs remain? These remain: When December is marked by sudden and violent extremes of heat and cold, the winter will be broken; the cold will not hold. I have said elsewhere that the hum of the bee in December is the requiem of winter. But when the season is very evenly spaced, the cold slowly and steadily increasing through November and December, no hurry, no violence, then be prepared for a snug winter.

As to wet and dry summers, one can always be guided by the rainfall on the Pacific coast; a shortage on the western coast means an excess on the eastern. For four or five years past California has been short of its rainfall; so much so that quite general alarm is felt over the gradual shrinkage of their stored-up supplies, the dams and reservoirs;

and during the summer seasons the parts of New England and New York with which I am acquainted have had very wet seasons—floods in midsummer, and full springs and wells at all times. The droughts have been temporary and local.

We say, "As fickle as the weather," but the meteorological laws are pretty well defined. All signs fail in a drought, and all signs fail in a wet season. At one time the south wind brings no rain, at another time the north and northwest winds do bring rain. The complex of conditions over a continental area of rivers and lakes and mountain-chains is too vast for us to decipher; it inheres in the nature of things. It is one of the potencies and possibilities which matter possesses. We can take no step beyond that.

VIII

THERE seems to me to be false reasoning in the argument from analogy which William James uses in his lectures on "Human Immortality." The brain, he admits, is the organ of the mind, but may only sustain the relation to it, he says, which the wire sustains to the electric current which it transmits, or which the pipe sustains to the water which it conveys.

Now the source and origin of the electric current is outside the wire that transmits it, and it could sustain no other than a transient relation to any

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outside material through which it passed. But if we know anything, we know that the human mind or spirit is a vital part of the human body; its source is in the brain and nervous system; hence, it and the organ through which it is manifested are essentially one.

The analogy of the brain to the battery or dynamo in which the current originates is the only logical or permissible one.

IX

MAETERLINCK wrote wisely when he said:

The insect does not belong to our world. The other animals, the plants even, notwithstanding their dumb life, and the great secrets which they cherish, do not seem wholly foreign to us. In spite of all we feel a sort of earthly brotherhood with them. . . . There is something, on the other hand, about the insect that does not belong to the habits, the ethics, the psychology of our globe. One would be inclined to say that the insect comes from another planet, more monstrous, more energetic, more insane, more atrocious, more infernal than our own.

Certainly more cruel and monstrous than our own. Among the spiders, for instance, the female eats the male and often devours her own young. The scorpion does the same thing. I know of nothing like it among our land animals outside the insect world.

The insects certainly live in a wonderland of

which we have little conception. All our powers are tremendously exaggerated in these little people. Their power makes them acquainted with the inner molecular constitution of matter far more intimately than we can attain to by our coarse chemical analysis. Our world is agitated by vibrations. coarse and fine, of which our senses can take in only the slower ones. If they exceed about forty thousand a second, they become too shrill for our ears. It is thought that the world of sound with the insects begins where ours leaves off. The drums and tubes of insects' ears are very minute. What would to us be a continuous sound is to them a series of separate blows. We begin to hear blows as continuous sounds when they amount to about thirty a second. The house-fly has about four thousand eve-lenses: the cabbage butterfly. and the dragon-fly, about seventeen thousand; and some species of beetles have twenty-five thousand. We cannot begin to think in what an agitated world the insect lives, thrilling and vibrating to a degree that would drive us insane. If we possessed the same microscopic gifts, how would the aspect of the world be changed! We might see a puff of smoke as a flock of small blue butterflies, or hear the hum of a mosquito as the blast of a trumpet. On the other hand, so much that disturbs us must escape the insects, because their senses are too fine to take it in. Doubtless

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they do not hear the thunder or feel the earthquake.

The insects are much more sensitive to heat and cold than we are, and for reasons. The number of waves in the ether that gives us the sensation of heat is three or four million millions a second. The number of tremors required to produce red light is estimated at four hundred and seventy-four million millions a second, and for the production of violet light, six hundred and ninety-nine million millions a second. No doubt the insects react to all these different degrees of vibration. Those marvelous instruments called antennæ seem to put them in touch with a world of which we are quite oblivious.

X

To how many things our lives have been compared!—to a voyage, with its storms and adverse currents and safe haven at last; to a day with its morning, noon, and night; to the seasons with their spring, summer, autumn, and winter; to a game, a school, a battle.

In one of his addresses to workingmen Huxley compared life to a game of chess. We must learn the names and the values and the moves of each piece, and all the rules of the game if we hope to play it successfully. The chessboard is the world, the pieces are the phenomena of the universe, the rules of the game are what we call the laws of

nature. But it may be questioned if the comparison is a happy one. Life is not a game in this sense, a diversion, an aside, or a contest for victory over an opponent, except in isolated episodes now and then. Mastery of chess will not help in the mastery of life. Life is a day's work, a struggle where the forces to be used and the forces to be overcome are much more vague and varied and intangible than are those of the chessboard. Life is coöperation with other lives. We win when we help others to win. I suppose business is more often like a game than is life—your gain is often the other man's loss, and you deliberately aim to outwit your rivals and competitors. But in a sane, normal life there is little that suggests a game of any kind.

We must all have money, or its equivalent. There are the three things—money, goods, labor—and the greatest of these is labor. Labor is the sum of all values. The value of things is the labor it requires to produce or to obtain them. Were gold plentiful and silver scarce, the latter would be the more precious. The men at the plough and the hoe and in the mines of coal and iron stand first. These men win from nature what we all must have, and these things are none of them in the hands or under the guardianship of some one who is trying to keep us from obtaining them, or is aiming to take our aids and resources from us.

The chess simile has only a rhetorical value.

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The London workingmen to whom Huxley spoke would look around them in vain to find in their problems of life anything akin to a game of chess, or for any fruitful suggestion in the idea. They were probably mechanics, tradesmen, artisans, teamsters, boatmen, painters, and so on, and knew through experience the forces with which they had to deal. But how many persons who succeed in life have any such expert knowledge of the forces and conditions with which they have to deal, as two chess-players have of the pawns and knights and bishops and queens of the chessboard?

Huxley was nearly always impressive and convincing, and there was vastly more logical force in his figures than in those of most writers.

Life may more truly be compared to a river that has its source in a mountain or hillside spring, with its pure and sparking or foaming and noisy youth, then its quieter and stronger and larger volume, and then its placid and gently moving current to the sea. Blessed is the life that is self-purifying, like the moving waters; that lends itself to many noble uses, never breaking out of bonds and becoming a destructive force.

XI

I had a letter the other day from a man who wanted to know why the meadow, or field, mice gnawed or barked the apple-trees when there was a deep

coverlid of snow upon the ground. Was it because they found it difficult to get up through the deep. frozen snow to the surface to get seeds to eat? He did not seem to know that meadow mice are not seed-eaters, but that they live on grass and roots and keep well hidden beneath the ground during the day, when there is a deep fall of snow coming up out of their dens and retreats and leading a free holiday life beneath the snow, free from the danger of cats, foxes, owls, and hawks. Life then becomes a sort of picnic. They build new nests on the surface of the ground and form new runways, and disport themselves apparently in a festive mood. The snow is their protection. They bark the trees and take their time. When the snow is gone, their winter picnic is at an end, and they retreat to their dens in the ground and beneath flat stones, and lead once more the life of fear.

XII

SITTING on my porch recently, wrapped in my blanket, recovering from a slight indisposition, I was in a mood to be interested in the everyday aspects of nature before me—in the white and purple lilacs, in the maple-leaves nearly full grown, in the pendent fringe of the yellowish-white bloom of the chestnut and oak, in the new shoots of the grapevines, and so forth. All these things formed only a setting or background for the wild life near by.

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The birds are the little people that peep out at me, or pause and regard me curiously in this great temple of trees, -wrens, chippies, robins, bluebirds, catbirds, redstarts, and now and then rarer visitants. A few days earlier, for a moment, a mourning ground warbler suddenly appeared around the corner, on the ground, at the foot of the steps, and glanced hastily up at me. When I arose and looked over the railing, it had gone. Then the speckled Canada warbler came in the lilac bushes and syringa branches and gave me several good views. The bay-breasted warbler was reported in the evergreens up by the stone house, but he failed to report to me here at "The Nest." The female redstart, however, came several times to the gravel walk below me, evidently looking for material to begin her nest. And the wren, the irrepressible house wren, was and is in evidence every few minutes, busy carrying nesting-material into the box on the corner of the veranda. How intense and emphatic she is! And the male, how he throbs and palpitates with song! Yesterday an interloper appeared. He or she climbed the post by the back way, as it were, and hopped out upon the top of the box and paused, as if to see that the coast was clear. He acted as if he felt himself an intruder. Quick as a flash there was a brown streak from the branch of a maple thirty feet away, and the owner of the box was after him. The culprit did not stop to argue the case, but

was off, hotly pursued. I must not forget the pair of wood thrushes that are building a nest in a maple fifty or more feet away. How I love to see them on the ground at my feet, every motion and gesture like music to the eye! The head and neck of the male fairly glows, and there is something fine and manly about his speckled breast.

A pair of catbirds have a nest in the barberry bushes at the south end of the house, and are in evidence at all hours. But when the nest is completed, and the laying of eggs begins, they keep out of the public eye as much as possible. From the front of the stage they retreat behind the curtain.

One day as I sat here I heard the song of the olive-backed thrush down in the currant-bushes below me. Instantly I was transported to the deep woods and the trout brooks of my native Catskills. I heard the murmuring water and felt the woodsy coolness of those retreats—such magic hath associative memories! A moment before a yellow-throated vireo sang briefly in the maple, a harsh note; and the oriole with its insistent call added to the disquieting sounds. I have no use for the oriole. He has not one musical note, and in grape time his bill is red, or purple, with the blood of our grapes.

But the most of these little people are my benefactors, and add another ray of sunshine to the May day. I shall not soon forget the spectacle of

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that rare little warbler peeping around the corner of the porch, like a little fairy, and then vanishing.

The mere studying of the birds, seeking mere knowledge of them, is not enough. You must live with the birds, so to speak; have daily and seasonal associations with them before they come to mean much to you. Then, as they linger about your house or your camp, or as you see them in your walks, they are a part of your life, and help give tone and color to your day.

TII

THE FLIGHT OF BIRDS

To what widely different use birds put their power of flight! To the great mass of them it is simply a means of locomotion, of getting from one point to another. A small minority put their wing-power to more ideal uses, as the lark when he claps his wings at heaven's gate, and the ruffed grouse when he drums; even the woodcock has some other use for his wings than to get from one point to another. Listen to his flight song in the April twilight up against the sky.

Our small hawks use their power of flight mainly to catch their prey, as does the swallow skimming the air all day on tireless wing, but some of the other hawks, such as our red-tailed hawk, climb their great spirals apparently with other motives than those which relate to their daily fare. The crow has little other use for his wings than to gad about like a busy politician from one neighborhood to another. In Florida I have seen large flocks of the white ibis performing striking evolutions high up against the sky, evidently expressive of the gay and festive feeling begotten by the mating instinct.

The most beautiful flyer we ever see against our

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skies is the unsavory buzzard. He is the winged embodiment of grace, ease, and leisure. Judging from appearances alone, he is the most disinterested of all the winged creatures we see. He rides the airy billows as if only to enjoy his mastery over them. He is as calm and unhurried as the orbs in their courses. His great circles and spirals have a kind of astronomic completeness. That all this power of wing and grace of motion should be given to an unclean bird, to a repulsive scavenger, is one of the anomalies of nature. He does not need to hurry or conceal his approach; what he is after cannot flee or hide; he has no enemies; nothing wants him; and he is at peace with all the world.

The great condor of South America, in rising from the ground, always faces the wind. It is often captured by tempting it to gorge itself in a comparatively narrow space. But if a strong enough wind were blowing at such times, it could quickly rise over the barrier. Darwin says he watched a condor high in the air describing its huge circles for six hours without once flapping its wings. He says that, if the bird wished to descend, the wings were for a moment collapsed; and when again expanded, with an altered inclination, the momentum gained by the rapid descent seemed to urge the bird upwards with the even and steady movement of a paper kite. In the case of any bird soaring, its motion must be sufficiently rapid for the action of

the inclined surface of its body on the atmosphere to counterbalance its gravity. The force to keep up the momentum of a body moving in a horizontal plane in the air (in which there is so little friction) cannot be great, and this force is all that is wanted. The movement of the neck and body of the condor, we must suppose, is sufficient for this. However this may be, it is truly wonderful and beautiful to see so great a bird, hour after hour, without any apparent exertion, wheeling and gliding over mountain and river.

The airplane has a propelling power in its motor, and it shifts its wings to take advantage of the currents. The buzzard and condor do the same thing. They are living airplanes, and their power is so evenly and subtly distributed and applied, that the trick of it escapes the eye. But of course they avail themselves of the lifting power of the air-currents.

All birds know how to use their wings to propel themselves through the air, but the mechanism of the act we may not be able to analyze. I do not know how a butterfly propels itself against a breeze with its quill-less wings, but we know that it does do it. As its wings are neither convex nor concave, like a bird's, one would think that the upward and downward strokes would neutralize each other; but they do not. Strong winds often carry them out over large bodies of water; but such a master

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flyer as the monarch beats its way back to shore, and, indeed, the monarch habitually flies long distances over salt water when migrating along our seacoast in spring and fall.

At the moment of writing these paragraphs, I saw a hen-hawk flap heavily by, pursued by a kingbird. The air was phenomenally still, not a leaf stirred, and the hawk was compelled to beat his wings vigorously. No soaring now, no mounting heavenward, as I have seen him mount till his petty persecutor grew dizzy with the height and returned to earth. But the next day, with a fairly good breeze blowing, I watched two hawks for many minutes climbing their spiral stairway to the skies, till they became very small objects against the clouds, and not once did they flap their wings! Then one of them turned toward the mountain-top and sailed straight into the face of the wind, till he was probably over his mate or young, when, with half-folded wings, he shot down into the tree-tops like an arrow.

In regard to powers of flight, the birds of the air may be divided into three grand classes: those which use their wings simply to transport themselves from one place to another,—the same use we put our legs to,—those which climb the heavens to attain a wide lookout, either for the pleasure of soaring, or to gain a vantage-point from which to scan a wide territory in search of food or prey,

and those which feed as they fly. Most of our common birds are examples of the first class. Our hawks and buzzards are examples of the second class. Swallows, nighthawks, and some seabirds are examples of the third class. A few of our birds use their wings to gain an elevation from which to deliver their songs—as the larks, and some of the finches; but the robins and the sparrows and the warblers and the woodpeckers are always going somewhere. The hawks and the buzzards are, comparatively speaking, birds of leisure.

Every bird and beast is a master in the use of its own tools and weapons. We who look on from the outside marvel at their skill. Here is the carpenter bumble-bee hovering and darting about the verge-board of my porch-roof as I write this. It darts swiftly this way and that, and now and then pauses in midair, surrounded by a blur of whirring wings, as often does the hummingbird. How it does it. I do not know. I cannot count or distinguish the separate stroke of its wings. At the same time, the chimney swifts sweep by me like black arrows, on wings apparently as stiff as if made of tin or sheet-iron, now beating the air. now sailing. In some way they suggest winged gimlets. How thin and scimitar-like their wings are! They are certainly masters of their own craft.

In general, birds in flight bring the wings as far below the body as they do above it. Note the

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crow flapping his way through the air. He is a heavy flyer, but can face a pretty strong wind. His wings probably move through an arc of about ninety degrees. The phoebe flies with a peculiar snappy, jerky flight; its relative the kingbird, with a mincing and hovering flight; it tiptoes through the air. The woodpeckers gallop, alternately closing and spreading their wings. The ordinary flight of the goldfinch is a very marked undulatory flight: a section of it, the rise and the fall, would probably measure fifty feet. The bird goes half that distance or more with wings closed. This is the flight the male indulges in within hearing distance of his brooding mate. During the love season he occasionally gives way to an ecstatic flight. This is a level flight, performed on round, open wings, which beat the air vertically. This flight of ecstasy during the song season is common to many of our birds. I have seen even the song sparrow indulge in it, rising fifty feet or more and delivering its simple song with obvious excitement. The idiotic-looking woodcock, inspired by the grand passion, rises upon whistling wings in the early spring twilight, and floats and circles at an altitude of a hundred feet or more, and in rapid smackering and chippering notes unburdens his soul. The song of ecstasy with our meadowlark is delivered in a level flight and is sharp and hurried, both flight and song differ-

ing radically from its everyday performance. One thinks of the bobolink as singing almost habitually on the wing. He is the most rollicking and songdrunk of all our singing birds. His season is brief but hilarious. In his level flight he seems to use only the tips of his wings, and we see them always below the level of his back. Our common birds that have no flight-song, so far as I have observed, are the bluebird, the robin, the phœbe, the social sparrow, the tanager, the grosbeak, the pewee, the wood warblers, and most of the ground warblers.

Over thirty years ago a writer on flying-machines had this to say about the flight of sea-gulls: "Sweeping around in circles, occasionally elevating themselves by a few flaps of the wings, they glide down and up the aerial inclines without apparently any effort whatever. But a close observation will show that at every turn the angle of inclination of the wings is changed to meet the new conditions. There is continual movement with power—by the bird it is done instinctively, by our machine only through mechanism obeying a mind not nearly so well instructed."

The albatross will follow a ship at sea, sailing round and round, in a brisk breeze, on unbending wing, only now and then righting itself with a single flap of its great pinions. It literally rides upon the storm.

IV

BIRD INTIMACIES

When, as sometimes happens, I feel an inclination to seek out new lands in my own country, or in other countries, to see what Nature is doing there, and what guise she wears, something prompts me to pause, and after a while to say to myself: "Look a little closer into the nature right at your own door; do a little intensive observation at home, and see what that yields you. The enticement of the far-away is mostly in your imagination; let your eyes and your imagination play once more on the old familiar birds and objects."

One season in my walks to the woods I was on the lookout for a natural bracket among the treebranches, to be used in supporting a book-shelf. I did not find it; but one day in a shad-blow tree, within a few feet from the corner of my own house, I found what I was searching for, perfect in every particular—the right angle and the supporting brace, or hypothenuse. It gave me a hint I have not forgotten.

I find that one has only to overcome a little of his obtuseness and indifference and look a little more closely upon the play of wild life about him to realize how much interesting natural history is

being enacted every day before his very eyes—in his own garden and dooryard and apple-orchard and vineyard. If one's mind were only alert and sensitive enough to take it all in! Whether one rides or walks or sits under the trees, or loiters about the fields or woods, the play of wild life is going on about him, and, if he happens to be blessed with the seeing eye and the hearing ear, is available for his instruction and entertainment. On every farm in the land a volume of live natural history goes to waste every year because there is no historian to note the happenings.

The drama of wild life goes on more or less behind screens—a screen of leaves or of grass, or of vines, or of tree-trunks, and only the alert and sympathetic eye penetrates it. The keenest of us see only a mere fraction of it. If one saw one tenth of the significant happenings that take place on his few acres of orchard, lawn, and vineyard in the course of the season, or even of a single week, what a harvest he would have! The drama of wild life is played rapidly; the actors are on and off the stage before we fairly know it, and the play shifts to other stages.

I wonder how many of the scores of persons passing along the road between my place and the railway station one early May day became aware that a rare bird incident was being enacted in the trees over their heads. It was the annual sängerfest of

the goldfinches—one of the prettiest episodes in the lives of any of our birds, a real musical reunion of the goldfinch tribe, apparently a whole township, many hundreds of them, filling scores of the treetops along the road and in the groves with a fine sibilant chorus which the ear refers vaguely to the surrounding tree-tops, but which the eve fails adequately to account for. It comes from everywhere, but from nowhere in particular. The birds sit singly here and there amid the branches, and it is difficult to identify the singers. It is a minor strain, but multitudinous, and fills all the air. The males are just donning their golden uniforms, as if to celebrate the blooming of the dandelions, which, with the elm-trees, afford them their earliest foodsupply. While they are singing they are busy cutting out the green germs of the elm flakes, and going down to the ground and tearing open the closed dandelion-heads that have shut up to ripen their seeds, preparatory to their second and ethereal flowering when they become spheres of fragile silver down.

Whether this annual reunion of the goldfinches should be called a dandelion festival, or a new-coat festival, or whether it is to bring the sexes together preliminary to the mating-season, I am at a loss to decide. It usually lasts a week or more, and continues on wet days as well as on fair. It all has a decidedly festive air, like the fête-days of

humans. I know of nothing like it among other birds. It is the manifestation of something different from the flocking instinct; it is the social and holiday instinct, bringing the birds together for a brief season, as if in celebration of some special event or purpose. I have observed it in my vicinity every spring for many years, usually in April or early May, and it is the prettiest and most significant bird episode, involving a whole species, known to me.

The goldfinch has many pretty ways. He is one of our most amiable birds. So far as my knowledge goes, he is not capable of one harsh note. His tones are all either joyous or plaintive. In his spring reunions they are joyous. In the peculiar flight-song in which he indulges in the mating season, beating the air vertically with his round, open wings, his tones are fairly ecstatic. His call to his mate when she is brooding, and when he circles about her in that long, billowy flight, the crests of his airy waves being thirty or forty feet apart, calling, "Perchic-o-pee, perchic-o-pee," as if he were saying, "For love of thee, for love of thee," and she calling back, "Yes, dearie; yes, dearie"—his tones, at such times express contentment and reassurance.

When any of his natural enemies appear—a hawk, a cat, a jay—his tones are plaintive and appealing. "Pit-y, pit-y!" he cries in sorrow and not in anger.

When with his mate he leads their brood about the August thistles, the young call in a similar tone. When in July the nesting has begun, the female talks the prettiest "baby talk" to her mate as he feeds her. The nest-building rarely begins till thistledown can be had—so literally are all the ways of this darling bird ways of softness and gentleness. The nest is a thick, soft, warm structure, securely fastened in the fork of a maple or an apple-tree.

None of our familiar birds endear themselves to us more than does the bluebird. The first bluebird in the spring is as welcome as the blue sky itself. The season seems softened and tempered as soon as we hear his note and see his warm breast and azure wing. His gentle manners, his soft, appealing voice, not less than his pleasing hues, seem born of the bright and genial skies. He is the spirit of the April days incarnated in a bird. He has the quality of winsomeness, like the violet and the speedwell among the flowers. Not strictly a songster, yet his every note and call is from out the soul of harmony. The bluebird is evidently an offshoot from the thrush family, and without the thrush's gift of song; still his voice affords us much of the same pleasure.

How readily the bluebirds become our friends and neighbors when we offer them suitable nestingretreats! Bring them something from nature,

something with the bark on-a section of a dry beech or maple limb in which the downy woodpecker has excavated his chamber and passed the winter or reared his brood; fasten it in early spring upon the corner of your porch, or on the trunk of a near-by tree, and see what interesting neighbors you will soon have. One summer I brought home from one of my walks to the woods a section, two or three feet long, of a large vellow birch limb which contained such a cavity as I speak of, and I wired it to one of the posts of the rustic porch at Woodchuck Lodge. The next season a pair of bluebirds reared two broads in it. The incubation of the eggs for the second brood was well under way when I appeared upon the scene in early July. My sudden presence so near their treasures, and my lingering there with books and newspapers, disturbed the birds a good deal. The first afternoon the mother bird did not enter the cavity for hours. I shall always remember the pretty and earnest manner in which the male tried to reassure her and persuade her that the danger was not so imminent as it appeared to be, probably encouraging a confidence in his mate which he did not himself share. The mother bird would alight at the entrance to the chamber, but, with her eye fixed upon the man with the newspaper, feared to enter. The male, perched upon the telegraph wire fifty feet away, would raise his wings and put all the love and

assurance in his voice he was capable of, apparently trying to dispel her fears. He would warble and warble, and make those pretty wing gestures over and over, saying so plainly: "It is all right, my dear, the man is harmless-absorbed there in his newspaper. Go in, go in, and keep warm our precious eggs!" How long she hesitated! But as night grew near she grew more and more anxious, and he more and more eloquent. Finally she alighted upon the edge of the overhanging roof and peered down hesitatingly. Her mate applauded and encouraged till finally she made the plunge and entered the hole, but instantly came out again: her heart failed her for a moment; but she soon returned and remained inside. Then her mate flew away toward the orchard, uttering a cheery note which doubtless she understood.

The birds soon became used to my presence and their household matters progressed satisfactorily. Both birds took a hand in feeding the young, which grew rapidly. When they were nearly ready to leave the nest, a cruel fate befell them: I slept upon the porch, and one night I was awakened by the cry of young bluebirds, and the sound of feet like those of a squirrel on the roof over me. Then I heard the cry of a young bird proceed from the butternut-tree across the road opposite the house. I said to myself, "A squirrel or an owl is after my birds." The cry coming so quickly from the but-

ternut-tree made me suspect an owl, and that the bird whose cry I heard was in his talons. I was out of my cot and up to the nest in a moment, but the tragedy was over; the birds were all gone, and the night was silent. In the morning I found that a piece of the brittle birch limb had been torn away, enlarging the entrance to the cavity so that the murderous talons of the owl could reach in and seize the young birds. I had been aroused in time to hear the marauder on the roof with one, and then hear its cry as he carried it to the tree. In the grass in front I found one of the young, unable to fly, but apparently unhurt. I put it back in the nest, but it would not stay. The spell of the nest was broken, and the young bird took to the grass again. The parent birds were on hand, much excited, and, when I tried to return the surviving bird to the nest, the male came at me fiercely, apparently charging the whole catastrophe to me.

We had strong proof the previous season that an owl, probably the screech owl, prowled about the house at night. A statuette of myself in clay which a sculptor was modeling was left out one night on the porch, and in the morning its head was unusually bowed. The prints of a bird's talons upon the top told what had happened. In the bronze reproduction of that statuette the head

has more of a droop than the artist at first planned to give it.

The next season the bluebirds occupied the cavity in the birch limb again, but before my arrival in July the owls had again cleaned them out. In so doing they had ripped the cavity open nearly to the bottom. For all that, early the following May bluebirds were occupying the cavity again. It held three eggs when I arrived. I looked over the situation and resolved to try to head off the owl this time, even at the risk of driving the bluebirds away. I took a strip of tin several inches wide and covered the slit with it and wired it fast. Then I obtained a broad strip of dry birch-bark. wrapped it about the limb over the tin, and wired it fast, leaving the entrance to the nest in its original form. I knew the owl could not slit the tin; the birch-bark would hide it and preserve in a measure the natural appearance of the branch. When the bluebirds saw what had happened to their abode, they were a good deal distressed; they could no longer see their eggs through the slit which the owl had made, and they refused to enter the cavity. They hung about all day, uttering despondent notes, approaching the nest at times, but hesitating even to alight upon the roof above it. Occasionally the female would fly away toward the distant woods or hills uttering that plaintive. homesick note which seemed to mean farewell.

The male would follow her, calling in a more cheery and encouraging tone. Once the couple were gone three or four hours, and I concluded they had really deserted the place. But just before sundown they were back again, and the female alighted at the entrance to the nest and looked in. The male called to her cheerily; still she would not enter. but joined him on the telephone wire, where the two seemed to hold a little discussion. Presently the mother bird flew to the nest again, then to the roof above it, then back to the nest, and entered it till only her tail showed, then flew back to the wire beside her mate. She was evidently making up her mind that the case was not hopeless. After a little more maneuvering, and amid the happy, reassuring calls of her mate, she entered the nest cavity and remained, and I was as well pleased as was her mate.

No owls disturbed them this time, and the brood of young birds was brought off in due season. In July a second brood of four was successfully reared and sent forth on their career.

The oriole nests in many kinds of trees—oaks, maples, apple-trees, elms—but her favorite is the elm. She chooses the end of one of the long drooping branches where a group of small swaying twigs affords her suitable support. It is the most unlikely place imaginable for any but a pendent nest, woven to half a dozen or more slender, vertical

twigs, and swaying freely in the wind. Few nests are so secure, so hidden, and so completely sheltered from the rains by the drooping leaves above and around it. It is rarely discoverable except from directly beneath it. I think a well-built oriole's nest would sustain a weight of eight or ten pounds before it would be torn from its moorings. They are also very partial to the ends of branches that swing low over the highway. One May I saw two female orioles building their nests twenty or twenty-five feet above our State Road, where automobiles and other vehicles passed nearly every minute all the day. An oriole's nest in a remote field far from highways and dwellings is a rare occurrence.

Birds of different species differ as widely in skill in nest-building as they do in song. From the rude platform of dry twigs and other coarse material of the cuckoo, to the pendent, closely woven pouch of the oriole, the difference in the degree of skill displayed is analogous to the difference between the simple lisp of the cedar-bird, or the little tin whistle of the "chippie," and the golden notes of the wood thrush, or the hilarious song of the bobolink.

Real castles in the air are the nests of the orioles; no other nests are better hidden or apparently more safe from the depredations of crows and squirrels. To start the oriole's nest successfully is quite an engineering feat. The birds inspect the branches many times before they make a decision. When

they have decided on the site, the mother bird brings her first string or vegetable fiber and attaches it to a twig by winding it around and around many times, leaving one or both ends hanging free. I have nests where these foundation strings are wound around a twig a dozen times. In her blind windings and tuckings and loopings the bird occasionally ties a substantial knot, but it is never the result of a deliberate purpose as some observers contend, but purely a matter of chance. When she uses only wild vegetable fibers, she fastens it to the twig by a hopeless kind of tangle. It is about the craziest kind of knitting imaginable. After the builder has fastened many lines to opposite twigs, their ends hanging free, she proceeds to span the little gulf by weaving them together. She stands with her claws clasped one to each side, and uses her beak industriously, looping up and fastening the loose ends. I have stood in the road under the nest looking straight up till my head swam, trying to make out just how she did it, but all I could see was the bird standing astride the chasm she was trying to bridge. and busy with the hanging strings. Slowly the maze of loose threads takes a sacklike form, the bottom of the nest thickens, till some morning you see the, movement of the bird inside it; her beak comes through the sides from within, like a needle or an awl, seizes a loose hair or thread, and jerks it back through the wall and tightens it. It is a regular

stitching or quilting process. The course of any particular thread or fiber is as irregular and haphazard as if it were the work of the wind or the waves. There is plan, but no conscious method of procedure. In fact, a bird's nest is a growth. It is not something builded as we build, in which judgment, design, forethought enter; it is the result of the blind groping of instinct which rarely errs, but which does not see the end from the beginning, as reason does. The oriole sometimes overhands the rim of her nest with strings and fibers to make it firm, and to afford a foundation for her to perch upon, but it is like the pathetic work which an untaught blind child might do under similar conditions. The birds use fine, strong strings in their nest-building at their peril. Many a tragedy results from it. I have an oriole's nest sent me from Michigan on the outside of which is a bird's dried foot with a string ingeniously knotted around it. It would be difficult to tie so complicated a knot. The tragedy is easy to read. Another nest sent me from the Mississippi Valley is largely made up of fragments of fish-line with the fish-hooks on them. But there is no sign that the bird came to grief using this dangerous material. Where the lives of the wild creatures impinge upon our lives is always a danger-line to them. They are partakers of our bounty in many ways, but they pay a tax to fate in others.

The orioles in my part of the country always use the same material in the body of their nests—a kind of soft, gray, flaxlike fiber which they apparently get from some species of everlasting flower. Woven together and quilted through with strings and horse-hairs, it makes strong, warm, feltlike walls. In the nest sent me from Michigan the walls are made of something that suggests brown human hair, except that it is too hard and brittle for hair.

Our orchard oriole also makes a pendent nest, but not so deep and pocketlike as that of the Baltimore oriole, and showing no such elaborate use of strings and hairs. It is made entirely of some sort of dried grass, very elaborately woven together.

Bullock's oriole of California weaves its nest entirely of the long, strong threads which it draws out of the palm-leaves. The only one I have seen was suspended from the under side of one of those leaves.

I think the prize nest of the woods, if we except the nest of the hummingbird, is that of the wood pewee. It is as smooth and compact and symmetrical as if turned in a lathe out of some soft, feltlike substance. Of course, the phœbe's artistic masonry under the shelving rocks, covered with moss and lined with feathers, or with the finest dry grass and bark fibers, sheltered from the storms and be-

yond the reach of four-footed prowlers, is almost ideal. It certainly is a happy thought.

The least flycatcher, the kingbird, the cedar-bird, the goldfinch, the indigo-bird, are all fine nestbuilders, each with a style of its own.

About the most insecure nest in our trees is that of the little social sparrow, or "chippie." When the sudden summer storms come, making the treetops writhe as if in agony, I think of this frail nest amid the tossing branches. Pass through the grove or orchard after the tempest is over, and you are pretty sure to find several wrecked nests upon the ground. "Chippie" has never learned the art of nest-building in trees. She is a poor architect. She should have kept to the ground or to the low bushes. The true tree nest-builders weave their nests fast to the branches, but "Chippie" does not; she simply arranges her material loosely between them, where the nest is supported, but not secured. She seems pathetically ignorant of the fact that there are such things as wind and storm. Hence her frail structure is more frequently dislodged from the trees than that of any other bird.

Recently, after a day of violent northwest wind, I found a wrecked robin's nest and eggs upon the lawn under a maple—not a frequent spectacle. The robin's firm masonry is usually proof agains' wind and rain, but in this case the nest was composed almost entirely of dry grass; there was hardly

a trace of mud in it, hence it was flexible and yielding, and had no grip of the branches. It was evidently the second nest of the pair this season, and the second nest in summer of any species of bird is frailer and more of a makeshift than the first nest in spring. Comparatively few of our birds attempt to bring off a second brood unless the first attempt has been defeated, but the robin is sure to bring off two, and may bring off three. But the robin is a hustler, probably the most enterprising of all our birds. I recall a mother robin that, in late June, repaired a nest in a climbing rosebush which her first brood had vacated only a week before. A broad of wood thrushes which left their nest about the same time was still being fed by their parents about the place.

The song sparrow, the social sparrow, the phœbe, the bluebird, all build a second nest. The first brood of the bluebird will be looked after by the father in some near-by grove or orchard, while the mother starts a new family in the old nest. If all goes well with them, those two bluebird families will unite and keep together in a loose flock till they migrate in the fall.

So many of our birds nest about our houses and lawns and gardens and along our highways, that at first sight it seems as if they must be drawn there by a sense of greater security for their eggs and young. The robin has become almost a

domestic institution. It is rarely that one finds a robin's nest very far from a human habitation. One spring there were four robins' nests on my house and outbuildings—in the vines, on windowsills, or other coigns of vantage. There were at the same time at least fifteen robins' nests on my lot of sixteen acres, and I am quite certain that I have not seen all there were. They were in sheds and apple-trees and spruces and cedars, in the ends of piles of grape-posts, in rosebushes, in the summer-house, and on the porch. We did not expect to get one of the early cherries, and might count ourselves lucky if we got any of the later ones.

A robin has built her nest in my summer-house. She abuses me so when I try to tarry there, after incubation has begun, that I take no comfort and presently withdraw. Until her brood has flown, I am practically a stranger in my open-air rest-house and study.

When the fish crows come egging in the spruces and maples about the house, and I hear the screaming of the robins, I seize my gun and rush out to protect them, but am not always successful, as the mischief is often done before I get within reach; I am not sure but that the robins think—if they think at all—that I am in league with the crows to despoil them. I was not in time to save the eggs of the wood thrush the other morning, when I heard the alarm calls of the birds, but I had the

satisfaction of seeing the black marauder go limping over the hill, dropping quills from his wings at nearly every stroke. I am sure he will not come back. The fish crow is one of the most active enemies of our small birds. Of course, he only obeys his instincts in hunting out and devouring their eggs and young, but I fancy I obey something higher than instinct when I protest with powder and shot.

The birds do not mind the approach of the domestic animals, such as the cow, the horse, the sheep, the pig, and they are only a little suspicious of the dog, but the appearance of the cat fills them with sudden alarm. I think that birds that have never before seen a cat join in the hue and cry. What alarms one alarms all within hearing. The orioles are probably the most immune from the depredations of crows and jays and owls of all our birds, and yet they will join in the cry of "Thief, thief!" when a crow appears. (The alarm cry of birds will even arrest the attention of four-footed beasts, and often bring the sportsman's stalking to naught.)

I fancy that Phœbe selects our sheds and bridges and porticoes for her nesting-sites because they are so much more numerous than the overhanging rocks where her forbears built. For the same reason certain of the swallows and the swifts select our barns and chimneys.

If the birds themselves are not afraid to draw near us, why should their instinct lead them to feel that their enemies will be afraid of us? How do they know that a jay or a crow or a red squirrel will be less timid than they are? And why also, if they have such confidence in us, do they raise such a hue and cry when we pass near their nests? The robin in my summer-house knew, if she knew anything, that I had never raised a finger against her. On the contrary, my hoe in the garden had unearthed many a worm and slug for her. Still she sees in me only a possible enemy, and tolerate me with my book or my newspaper near her nest she will not. Another robin has built her nest in a rosebush that has been trained to form an arch over the walk that leads to the kitchen door and only a few yards from it; but whenever we pass and repass she scurries away with loud, angry protests and keeps it up as long as we are in sight, so that we do not feel at all complimented by her settling down so near us. If one's appearance is so alarming, even when he is going to hoe the garden, why did the intolerant bird set up her household gods so near? If I keep away her enemies, why will she not be gracious enough to regard me as her friend? The robin that trusted her brood to the sheltering vines of the woodshed, and lined her nest with the hair of our old gray horse-why should she

scream, "Murder!" whenever any of us go to the well a few feet away?

What is the real explanation of the fact that so many of our birds nest so near our dwellings and vet show such unfriendliness when we come near them? Their apparent confidence, on the one hand, contradicts their suspicion on the other. Is it because we have here the workings of a new instinct which has not vet adjusted itself to the workings of the older instinct of solicitude for the safety of the nest and young? My own interpretation is that birds are not drawn near us by any sense of greater security in our vicinity. It is evident from the start that there is an initial fear of us to be overcome. How, then, could the sense of greater safety in our presence arise? Fear and trust do not spring from the same root. How should the robins and thrushes know that their enemies—the jays, the crows, and the like—are more afraid of human beings than they are themselves? Hunted animals pursued by wolves or hounds will at times take refuge in the haunts of men, not because they expect human protection, but because they are desperate, and oblivious to everything save some means of escape. If the hunted deer or fox rushes into an open shed or a barn door, it is because it is desperately hardpressed, and sees and knows nothing but some object or situation that it may place between itself

and its deadly enemy. The great fear obliterates all minor fears.

The key to the behavior of the birds in this respect may be found in the Darwinian theory of natural selection. From the first settlement of the country a few of the common birds, attracted by a more suitable or more abundant food-supply, or other conditions, must inevitably have nested near human dwellings. These birds would thrive better and succeed in bringing off more young than those that nested in more exposed places. Hence, their progeny would soon be in the ascendancy. All animals seem to have associated memory. These birds would naturally return to the scenes and conditions of their youth, and start their nests there. It would not be confidence in men that would draw them: rather would the truth be that the fear of man is inadequate to overcome or annul this home attraction.

The catbird does not come to our vines on the veranda to nest from considerations of safety, but because her line of descent runs through such places. The catbirds and robins and phœbe-birds that were reared far from human habitations doubtless return to such localities to rear their young. The home sense in birds is strong. I have positive proof in a few instances of robins and song sparrows returning successive years to the same neighborhood. It is very certain, I think, that the phœbe-birds that

daub our porches with their mud, and in July leave a trail of minute creeping and crawling pests, were not themselves hatched and reared in the pretty, moss-covered structure under the shelving rocks in the woods, or on the hillsides.

How different from the manners of the robins are the manners of a pair of catbirds that have a nest in the honeysuckle against the side of the firstfloor sleeping-porch! Nothing seems farther from the nature of the catbird than the hue and cry which the robin at times sets up. The catbird is sly and dislikes publicity. An appealing feline mew is her characteristic note. She never raises her voice like the town-crier, as the robin does, perched in the mean time where all eyes may behold him. The catbird peers and utters her soft protest from her hiding-place in the bushes. This particular pair of catbirds appeared in early May and began slyly to look over the situation in the vines and bushes about the house. All their proceedings were very stealthy; they were like two dark shadows gliding about, avoiding observation-no treetops or house-tops for them, but coverts close to the ground. We hoped they would divine safety in the shadow of the cottage, but tried to act as if oblivious of their goings and comings. We sav them now and then stealthily inspecting the tangle of honeysuckle on the east side of the veranda, where a robin last season reared a brood, and the

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low hedge of barberry-bushes on the south side of the cottage, where a song sparrow had her nest. If they come, which will they take, we wondered. Several times in the early morning I heard the male singing vivaciously and confidently in the thick of the honeysuckle. I guessed that the honeysuckle was the choice of the male, and that his song was a pæan in praise of it, addressed to his mate. But it was nearly a week before his musical argument prevailed and the site was apparently agreed upon.

When the nest-building actually began, the birds were so shy about it that, watch as I might, I failed to catch them in the act. One morning I saw the mother bird in the garden with nesting-material in her beak, but she failed to come to the honeysuckle with it while I watched from a near-by covert. At the same time robins were flying here and there with loaded beaks, and wood thrushes were going through the air trailing long strips of white paper behind them, but the catbird was an emblem of secrecy itself. She, too, brought fragments of white paper to her nest, but no one saw her do it. Like other nest-builders, she apparently put in her big strokes of work in the early morning before the sleepers on the veranda were stirring. A few times my inquisitive eye, cautiously peering over the railing, started her from the vine, but I never saw her enter it with leaf, stick, or straw;

yet slowly the nest grew and came into shape, and finally received its finishing touches. So cautiously had the birds proceeded that, were they capable of concepts like us, I should fancy they flattered themselves that we had not the least suspicion of their little secret. The male ceased to sing near the house after the nest was begun. So much time elapsed after the finishing of the nest before the first egg appeared in it that some members of the household feared the birds had deserted it, especially as they were not seen about the premises for several days. But the weather was wet and cool. and the eggs ripened slowly. Then one morning the birds were seen again, and one blue-green egg was discovered in the nest. The next morning another egg was added, and a third egg on the third morning, and a fourth on the fourth morning. In due time incubation began, and thenceforth all went well with our dusky neighbors.

It is an anxious moment for all birds when their young leave the nest. One noontime by the unusual mewing of a parent cathird I felt sure that the critical time had come. Sure enough, there sat one of the young on a twig a few inches above the nest, motionless and hushed. No lusty response to the agitated cry of the mother, as is usually the case with the robin. "No publicity" is the watchword of the young cathirds as well as of the old. An hour or two later another young

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one was perched on a branch, and before night. when no one was looking, they both disappeared, leaving two motionless birds in the nest. next morning early, without any signs of alarm or agitation on the part of the old birds, they took the important step. It could hardly have been much of a flight with any of them, as their wingquills were only partially developed, and their tails were mere stubs. For several days afterward no sign or sound of old or young was seen or heard. They were probably keeping well concealed in the near-by trees or in the vines and currant-bushes in the vineyard. In about a week the whole family appeared briefly in upper branches of the maples near the house. The young were distinguishable from the old only by their shorter tails. A few days later the parent birds were seen moving stealthily through the vines and bushes about the house, or perching on the near-by stakes that supported the wire netting. Are they coming back for a second brood? was the question in our minds.

Soon we began to hear snatches of song from the male, then one morning a regular old-time burst of joy from him in the vine that held the old nest. Then he sang in a syringa-bush near the window on the south side of the cottage, and both birds were soon seen paying frequent visits to the bush. We felt sure another brood was in the air. Whether or not the first brood were now shifting for them-

selves, we did not know; they never again appeared upon the scene. Finally, on the morning of the Fourth of July, the foundation of a new nest was started in the syringa-bush three feet from the ground, and barely four feet from the window!

We had a view of the proceedings that the first site did not afford us. The old nest appeared to be in perfect condition, but there was evidently no thought with the birds of using it again, as the robins sometimes do, and as bluebirds and cliff swallows always do. A new nest, built of material almost identical with that of the old, and in a more exposed position, was decided upon. It progressed rapidly, and I was delighted to find that the male assisted in the building. Indeed, he was fully as active as the female. Very often they were both in the nest with material at the same moment. They seemed to agree perfectly. At first I got the impression that the male was not quite as decided as the female, and hesitated more, once or twice bringing material that he finally rejected. But he soon warmed up to the work and certainly did his share.

With most species of our birds the nest is entirely built by the female. With the robin, the wood thrush, the phœbe, the oriole, the humming-bird, the pewee, and many others, the male is only an interested spectator of the proceeding. He usually attends his mate in her quest for material,

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but does not lend a hand, or a bill. I think the cock wren assists in nest-building. I know the male cedar-bird does, and probably the male woodpeckers do also. The male rose-breasted grosbeak assists in incubation, and has been seen to sing upon the nest. It seems fair to infer that he assists in the nest-building also, but I am not certain that he does, and I have heard another observer state that in a nest which he watched the female apparently did it all.

My cathirds both worked overtime one afternoon at least, being on their job as late as seven o'clock. In three days the nest was done, all but touching up the interior. During the construction I laid out pieces of twine and bits of white paper on the bushes and wire netting, also some loose material from the outside of the old nest; all was quickly used. How much labor the birds would have saved themselves had they pulled the old nest to pieces and used the material a second time! I have known the oriole to start a nest, then change her mind, and then detach some of her strings and fibers and carry them to the new site; and I once saw a "chebec" whose eggs had been destroyed pull the old nest to pieces and rebuild it in a tree a hundred feet away.

The male catbird is slightly brighter and fresherlooking than his mate, but we could easily tell her by her often simulating the actions of a young bird

when she came with material in her beak; she would alight on a near-by post and slightly spread and quiver her wings in a tender, beseeching kind of way. She would do this also when bringing food to her first brood. When one of the parent birds of any species simulates by voice or manner the young birds, it is always the female; her heart would naturally be more a-quiver with anticipation than that of the male.

On the fifth day the nest was completed and received its first egg. There was considerable delay with the second egg, but it appeared on the second or third day, and the third egg the following day. Then incubation began. In twenty days from the day the nest was begun, the birds were hatched, and in eleven days more they had quietly left the nest.

A friend of mine who has a summer home on one of the trout-streams of the Catskills discovered that the catbird was fond of butter, and she soon had one of the birds coming every day to the diningroom window for its lump of fresh butter, and finally entering the dining-room, perching on the back of the chair, and receiving its morsel of butter from a fork held in the mistress's hand. I think the butter was unsalted. My friend was convinced after three years that the same pair of birds returned to her each year, because each season the male came promptly for his butter.

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The furtive and stealthy manners of the catbird contrast strongly with the frank, open manners of the thrushes. Its cousin the brown thrasher goes skulking about in much the same way, flirting from bush to bush like a culprit escaping from justice. But he does love to sing from the April tree-tops where all the world may see and hear, if said world does not come too near. In the South and West the thrasher also nests in the vicinity of houses, but in New York and New England we must look for him in remote, bushy fields. I do not know of any bad traits that go with the thrasher's air of suspicion and secrecy, but I do know of one that goes with the catbird's-I have seen her perch on the rim of another bird's nest and deliberately devour the eggs. But only once. Whether or not she frequently does this, I have no evidence. If she does, she is doubtless so sly about it that she escapes observation.

I welcomed the catbird, though she is not so attractive a neighbor as the wood thrush. She has none of the wood thrush's dignity and grace. She skulks and slinks away like a culprit, while the wood thrush stands up before you or perches upon a limb, and turns his spotted waistcoat toward you in the most open and trusting manner. In fact, few birds have such good manners as the wood thrush, and few have so much the manner of a Paul Pry and eavesdropper as the catbird. The

flight of the wood thrush across the lawn is such a picture of grace and harmony, it is music to the eve. The cathird seems saving, "There, there! 1 told you so, pretty figure, pretty figure you make!" But the courteous thrush (just here I heard the excited calls of robins and the hoarse, angry caw of a crow, and rushed out hatless to see a fish crow fly away from the maple in front of the Study. pursued by a mob of screeching robins. He took refuge in the spruces above the house where the collected robins abused him from surrounding branches. On my appearance he flew away, and the robins dispersed)—but the courteous thrush, I say, invites the good-breeding in you which he himself shows. The thrush never has the air of a culprit, while the catbird seldom has any other air. But I welcome them both. One shall stand for the harmony and repose of bird life, and the other for its restlessness and curiosity. songs and the manners of birds correspond. The catbird, the brown thrasher, and the mockingbird are all theatrical in their manners-full of gestures of tail and wings, and their songs all imply an audience, while the serene melody of the thrushes is in keeping with the grace and poise of their behavior.

V

A MIDSUMMER IDYL

As I sit here of a midsummer day, in front of the wide-open doors of a big hay-barn, busy with my pen, and look out upon broad meadows where my farmer neighbor is busy with his haymaking, I idly contrast his harvest with mine. I have to admit that he succeeds with his better than I do with mine, though he can make hay only while the sun shines, while I can reap and cure my light fancies nearly as well in the shade as in the sun. Yet his crop is the surer and of more certain value to mankind. But I have this advantage over him—I might make literature out of his haymaking, or might reap his fields after him, and gather a harvest he never dreamed of. What does Emerson say?

One harvest from the field Homeward bring the oxen strong; A second crop thine acres yield, Which I gather in a song.

But the poet, like the farmer, can reap only where he has sown, and if Emerson had not scattered his own heart in the fields his Muse would not reap much there. Song is not one of the instruments with which I gather my harvest, but long ago, as a farm boy, in haymaking, and in driving

the cows to and from the pasture, I planted myself there, and whatever comes back to me now from that source is honestly my own. The second crop which I gather is not much more tangible than that which the poet gathers, but the farmer as little suspects its existence as he does that of the poet. I can use what he would gladly reject. His daisies. his buttercups, his orange hawkweed, his varrow, his meadow-rue, serve my purpose better than they do his. They look better on the printed page than they do in the haymow. Yes, and his timothy and clover have their literary uses, and his newmown hav may perfume a line in poetry. When one of our poets writes, "wild carrot blooms nod round his quiet bed," he makes better use of this weed than the farmers can.

Certainly a midsummer day in the country, with all its sights and sounds, its singing birds, its skimming swallows, its grazing or ruminating cattle, its drifting cloud-shadows, its grassy perfumes from the meadows and the hillsides, and the farmer with his men and teams busy with the harvest, has material for the literary artist. A good hay day is a good day for the writer and the poet, because it has a certain crispness and pureness; it is positive; it is rich in sunshine; there is a potency in the blue sky which you feel; the high barometer raises your spirits; your thoughts ripen as the hay cures. You can sit in a circle of shade beneath a tree in the

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fields, or in front of the open hay-barn doors, as I do, and feel the fruition and satisfaction of nature all about you. The brimming meadows seem fairly to purr as the breezes stroke them; the trees rustle their myriad leaves as if in gladness; the many-colored butterflies dance by; the steel blue of the swallows' backs glistens in the sun as they skim the fields; and the mellow boom of the passing bumble-bee but enhances the sense of repose and contentment that pervades the air. The hay cures; the oats and corn deepen their hue; the delicious fragrance of the last wild strawberries is on the breeze; your mental skies are lucid, and life has the midsummer fullness and charm.

As I linger here I note the oft-repeated song of the scarlet tanager in the maple woods that crown a hill above me, and in the loft overhead two broods of swallows are chattering and lining up their light-colored breasts on the rims of their nests, or trying their newly fledged wings while clinging to its sides. The only ominous and unwelcome sound is the call of the cuckoo, which I hear and have heard at nearly all hours for many days, and which surely bodes rain. The countryman who first named this bird the "rain crow" hit the mark. The cuckoo is a devourer of worms and caterpillars, and why he should be interested in rain is hard to see. The tree-toad calls before and during a shower, mainly, I think, because he likes to have

his back wet, but why a well-dressed bird like the cuckoo should become a prophet of the rain is s mystery, unless the rain and the shadows are congenial to the gloomy mood in which he usually seems to be. He is the least sprightly and cheery of our birds, and the part of doleful prophet in our bird drama suits him well.

A high barometer is best for the haymakers and it is best for the human spirits. When the smoke goes straight up, one's thoughts are more likely to soar also, and revel in the higher air. The persons who do not like to get up in the morning till the day has been well sunned and aired evidently thrive best on a high barometer. Such days do seem better ventilated, and our lungs take in fuller draughts of air. How curious it is that the air should seem heavy to us when it is light, and light when it is heavy! On those sultry, muggy days when it is an effort to move, and the grasshopper is a burden, the air is light, and we are in the trough of the vast atmospheric wave: while we are on its crest, and are buoyed up both in mind and in body, on the crisp, bright days when the air seems to offer us no resistance. We know that the heavier salt sea-water buoys us up more than the fresh river or pond water, but we do not feel in the same way the lift of the high barometric wave. Even the rough, tough-coated maple-trees in spring are quickly susceptible to these atmospheric

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changes. The farmer knows that he needs sunshine and crisp air to make maple-sugar as well as to make hay. Let the high blue-domed day with its dry northwest breezes change to a warmer, overcast, humid day from the south, and the flow of sap lessens at once. It would seem as if the trees had nerves on the outside of their dry bark, they respond to the change so quickly. There is no sap without warmth, and yet warmth, without any memory of the frost, stops the flow.

The more the air presses upon us the lighter we feel, and the less it presses upon us the more "logy" we feel. Climb to the top of a mountain ten thousand feet high, and you breathe and move with an effort. The air is light, water boils at a low temperature, and our lungs and muscles seem inadequate to perform their usual functions. There is a kind of pressure that exhilarates us, and an absence of pressure that depresses us.

The pressure of congenial tasks, of worthy work, sets one up, while the idle, the unemployed, has a deficiency of hæmoglobin in his blood. The Lord pity the unemployed man, and pity the man so over-employed that the pressure upon him is like that upon one who works in a tunnel filled with compressed air.

Haying in this pastoral region is the first act in the drama of the harvest, and one likes to see it well staged, as it is to-day—the high blue dome,

the rank, dark foliage of the trees, the daisies still white in the sun, the buttercups gilding the pastures and hill-slopes, the clover shedding its perfume, the timothy shaking out its little clouds of pollen as the sickle-bar strikes it, most of the song-birds still vocal, and the tide of summer standing poised at its full. Very soon it will begin to ebb, the stalks of the meadow grasses will become dry and harsh, the clover will fade, the girlish daisies will become coarse and matronly, the birds will sing fitfully or cease altogether, the pastures will turn brown, and the haymakers will find the hay half cured as it stands waiting for them in the meadows.

What a wonderful thing is the grass, so common, so abundant, so various, a green summer snow that softens the outlines of the landscape, that makes a carpet for the foot, that brings a hush to the fields, and that furnishes food to so many and such various creatures! More than the grazing animals live upon the grass. All our cereals—wheat, barley, rye, rice, oats, corn—belong to the great family of the grasses.

Grass is the nap of the fields; it is the undergarment of the hills. It gives us the meadow, a feature in the northern landscape so common that we cease to remark it, but which we miss at once when we enter a tropical or semi-tropical country. In Cuba and Jamaica and Hawaii I saw no mead-

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ows and no pastures, no grazing cattle, none of the genial, mellow look which our landscape presents. Harshness, rawness, aridity, are the prevailing notes.

From my barn-door outlook I behold meadows with their boundary line of stone fences that are like lakes and reservoirs of timothy and clover. They are full to the brim, they ripple and rock in the breeze, the green inundation seems about to overwhelm its boundaries, all the surface inequalities of the land are wiped out, the small rocks and stones are hidden, the woodchucks make their roads through it, immersed like dolphins in the sea. What a picture of the plenty and the flowing beneficence of our temperate zone it all presents! Nature in her kinder, gentler moods, dreaming of the tranquil herds and the bursting barns. Surely the vast army of the grass hath its victories, for the most part noiseless, peace-yielding victories that gladden the eye and tranquillize the heart.

The meadow presents a pleasing picture before it is invaded by the haymakers, and a varied and animated one after it is thus invaded; the mowing-machine sending a shudder ahead of it through the grass, the hay-tedder kicking up the green locks like a giant, many-legged grasshopper, the horse-rake gathering the cured hay into windrows, the white-sleeved men with their forks pitching it into cocks, and, lastly, the huge, soft-cheeked loads

of hay, towering above the teams that draw them, brushing against the bar-ways and the lower branches of the trees along their course, slowly winding their way toward the barn. Then the great mows of hay, or the shapely stacks in the fields, and the battle is won. Milk and cream are stored up in well-cured hay, and when the snow of winter fills the meadows as grass fills them in summer, the tranquil cow can still rest and ruminate in contentment.

As the swallows sweep out and in near my head they give out an angry "Sleet, sleet," as if my presence had suddenly become offensive to them. I know what makes the change in their temper. The young are leaving their nests, and at such eventful times the parent birds are always nervous and anxious. When any of our birds launch a family into the world they would rather not have spectators, and you are pretty sure to be abused if you intrude upon the scene. The swallow can put a good deal of sharp emphasis into that "Sleet, sleet," though she is not armed to make any of her threats good. Who knows that all will go well with them when they first make the plunge into space with their untried wings? A careful parent should keep the coast clear.

They have been testing their wings for several days, clinging to the sides of the nest and beating the wings rapidly. And now comes the crucial

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moment of letting go and attempting actual flight. Several of them have already done it, and I see them resting on the dead limbs of a plum-tree across the road. But more are to follow, and parental anxiety is still rife. I shall be sorry when the spacious hayloft becomes silent. That affectionate "Wit, wit" and that contented and caressing squeaking and chattering give me a sense of winged companionship. The old barn is the abode of friendly and delicate spirits, and the sight of them and the sound of them surely bring a suggestion of poetry and romance to these familiar scenes.

Is not the swallow one of the oldest and dearest of birds? Known to the poets and sages and prophets of all peoples! So infantile, so helpless and awkward upon the earth, so graceful and masterful on the wing, the child and darling of the summer air, reaping its invisible harvest in the fields of space as if it dined on the sunbeams, touching no earthly food, drinking and bathing and mating on the wing, swiftly, tirelessly coursing the long day through, a thought on wings, a lyric in the shape of a bird! Only in the free fields of the summer air could it have got that steel-blue of the wings and that warm tan of the breast. Of course I refer to the barn swallow. The cliff swallow seems less a child of the sky and sun, probably because its sheen and glow are less, and its shape and motions less arrowy. More varied in

color, its hues yet lack the intensity, and its flight the swiftness, of those of its brother of the haylofts. The tree swallows and the bank swallows are pleasing, but they are much more local and restricted in their ranges than the barn-frequenters. As a farm boy I did not know them at all, but the barn swallows the summer always brought.

After all, there is but one swallow: the others are particular kinds that we specify. How curious that men should ever have got the notion that this airy, fairy creature, this playmate of the sunbeams, spends the winter hibernating in the mud of ponds and marshes, the bedfellow of newts and frogs and turtles! It is an Old-World legend, born of the blindness and superstition of earlier times. One knows that the rain of the rainbow may be gathered at one's feet in a mud-puddle, but the fleeting spectrum of the bow is not a thing of life. Yet one would as soon think of digging up a rainbow in the mud as a swallow. The swallow follows the sun, and in August is off for the equatorial regions, where it hibernates on the wing, buried in tropical sunshine.

Well, this brilliant day is a good day for the swallows, a good day for the haymakers, and a good day for him who sits before his open barn door and weaves his facts and midsummer fancies into this slight literary fabric.

VI

NEAR VIEWS OF WILD LIFE

THE wild life around us is usually so unobtrusive and goes its own way so quietly and furtively that we miss much of it unless we cultivate an interest in it. A person must be interested in it, to paraphrase a line of Wordsworth's, ere to him it will seem worthy of his interest. One thing is linked to another or gives a clue to another. There is no surer way to find birds' nests than to go berrying or fishing. In the blackberry or raspberry bushes you may find the bush sparrow's nest or the indigobird's nest. Once while fishing a trout-stream I missed my fish, and my hook caught on a branch over my head. When I pulled the branch down, there, deftly saddled upon it, was a hummingbird's nest. I unwittingly caught more than I missed. On another occasion I stumbled upon the nest of the water accentor which I had never before found; on still another, upon the nest of the winter wren, a marvel of mossy softness and delicacy hidden under a mossy log.

Along trout-streams with overhanging or shelving ledges the fisherman often sees the nest of the phœbe-bird, which does not cease to please for the hundredth time, because of its fitness and exquisite

artistry. On the newly sawn timbers of your porch or woodshed it is far less pleasing, because the bird's art, born of rocky ledges, only serves in the new environment to make its nest conspicuous.

Sitting in my barn-door study I see a vesper sparrow fly up and alight on the telephone wire with nesting-material in her beak. I keep my eve upon her. In a moment she drops down to the grassy and weedy bank of the roadside in front of me and disappears. A few moments later I have her secret—a nest in a little recess in the bank. That straw gave the finishing touch. She kept her place on the nest until she had deposited her first egg on June 24th, probably for her second brood this season. Some young vespers flitting about farther up the road are presumably her first brood. Each day thereafter for four consecutive days she added an egg. Incubation soon began and on the 10th of July the young were out, the little sprawling, skinny things looking, as a city girl said when she first beheld newly-hatched birds in a nest, as if they were mildewed.

These ground-builders among the birds, taking their chances in the great common of the open fields, at the mercy of all their enemies every hour—the hoofs of grazing cattle, prowling skunks, foxes, weasels, coons by night, and crows and hawks by day—what bird-lover does not experience a little

thrill when in his walk he comes upon one of their nests? He has found a thing of art among the unkempt and the disorderly; he has found a thing of life and love amid the cold and the insensate. Yet all so artless and natural! Every shred and straw of it serves a purpose; it fairly warms and vivifies the little niche in which it is placed. What a center of solicitude and forethought.

Not many yards below the vesper's nest, on the other side of the road, is a junco's nest. You may know the junco's nest from that of any other ground-builder by its being more elaborate and more perfectly hidden. The nest is tucked far under the mossy and weedy bank, and only a nest-hunter passing along the road, with "eye practiced like a blind man's touch" and with juncos in mind, would have seen it. A little screen of leaves of the hawkweed permits only the rim of one edge of the nest to be seen. Not till I stooped down and reached forth my hand did the mother bird come fluttering out and go down the road with drooping wings and spread tail, the white quills of the latter fairly lighting up the whole performance.

A very shy and artful bird is the junco. I had had brief glimpses of the male many times about the place. The morning I found the nest I had seen one male spitefully pursuing another male along the top of the stone wall opposite, which fact, paralleled in a human case, would afford a hint for

detectives to work on. The junco is evidently a very successful bird. The swarms of them that one sees in the late fall and in the early winter going south is good evidence of this. They usually precede the white-throats north in the spring, but a few linger and breed in the high altitude of the Catskills.

When the sun shines hot the sparrow in front of my door makes herself into a sunshade to protect her nestlings. She pants with the heat, and her young pant too; they would probably perish were not the direct rays of the sun kept from them. Another vesper sparrow's nest yonder in the hill pasture, from which we flushed the bird in our walk. might be considered in danger from a large herd of dairy cows, but it is wisely placed in view of such a contingency. It is at the foot of a stalk of Canada thistle about a foot and a half high, and where, for a few square yards, the grazing is very poor. I do not think that the chances are one in fifty that the hoof of a cow will find it. I do not suppose that the problem presented itself to the bird as it does to me, but her instinct was as sure a guide as my reason is to me-or a surer one.

The vesper sparrow was thus happily named by a New England bird-lover, Wilson Flagg, an old-fashioned writer on our birds, fifty or more years ago. I believe the bird was called the grass finch by our earlier writers. It haunts the hilly pastures and roadsides in the Catskill region. It is often

called the road-runner, from its habit of running along the road ahead when one is driving or walking-a very different bird, however, from the roadrunner of the Western States. The vesper is larger than the song sparrow, of a lighter gray and russet, and does not frequent our gardens and orchards as does the latter. In color it suggests the European skylark; the two lateral white quills in its tail enhance this impression. One season a stray skylark, probably from Long Island or some other place where larks had been liberated. appeared in a broad, low meadow near me, and not finding his own kind paid court to a female vesper sparrow. He pursued her diligently and no doubt pestered her dreadfully. She fled from him preciptately and seemed much embarrassed by the attentions of the distinguished-looking foreigner.

When the young of any species appear, the solicitude and watchfulness of the mother bird are greatly increased. Although my near neighbor the vesper sparrow in front of my door has had proof of my harmless character now for several weeks and, one would think, must know that her precious secret is safe with me, yet, when she comes with food in her beak while I am at my desk ten or eleven yards away, she maneuvers around for a minute or two, flying up to the telephone wire or a few yards up or down the road, and finally approaches the nest with much hesitation and suspicion, lest I see her

in the act. When she comes again and again and again, she is filled with the same apprehension.

After a night of heavy but warm rain two of the half-fledged young were lying on the ground in front of the nest, dead. There were no murderous marks upon them, and the secret of the tragedy I could not divine.

What automatons these wild creatures are, apparently so wise on some occasions and so absurd on others! This vesper sparrow in bringing food to her young, going through the same tactics over and over, learns no more than a machine would. But, of course, the bird does not think; hence the folly of her behavior to a being that does. The wisdom of nature, which is so unerring under certain conditions, becomes to us sheer folly under changed conditions.

When the mother bird's suspicion gets the better of her, she often devours the food she has in her beak, so fearful is she of betraying her precious secret. But the next time she comes she may only maneuver briefly before approaching the nest, and then again hesitate and parley with her fears and make false moves and keep her eye on me, as if I had only just appeared upon the scene.

One of the best things a bird-lover can have in front of his house or cabin is a small dead tree with numerous leafless branches. Many kinds of birds love to perch briefly where they can look around

them. I would not exchange the old dead plumtree that stands across the road in front of my lodge for the finest living plum-tree in the world. It bears a perpetual crop of birds. Of course the strictly sylvan birds, such as the warblers, the vireos, the oven-bird, the veery and hermit thrushes, do not come, but many kinds of other birds pause there during the day and seem to enjoy the unobstructed view.

All the field and orchard and grove birds come. In early summer the bobolink perches there, then tiptoes, or tip-wings, away to the meadows below, pouring out his ecstatic song. The rose-breasted grosbeak comes and shows his brilliant front. The purple finch, the goldfinch, the indigo bunting, the bluebird, the kingbird, the phœbe-bird, the great crested flycatcher, the robin, the oriole, the chickadee, the high-hole, the downy woodpecker, the vesper sparrow, the social sparrow, or chippy, pause there in the course of the day, and some of them several times during the day. Occasionally the scarlet tanager lights it up with his vivid color.

But more than all it is the favorite perch of a song sparrow whose mate has a nest not far off. Here he perches and goes through his repertoire of three or four different songs from dawn till nightfall, pausing only long enough now and then to visit his mate or to refresh himself with a little food. He repeats his strain six times a minute, often preening

his plumage in the intervals. He sings several hundred times a day and has been doing so for many weeks. The house wren during the breeding-season repeats his song thousands of times a day, while the red-eyed vireo sings continuously from morning till night for several months. How a conscious effort like that would weary our human singers and their hearers! But the birds are quite unconscious, in our sense, of what they are doing.

When we pause to think of it, what a spectacle this singing sparrow presents! A little wild bird sitting on a dead branch and lifting up its voice in song hour after hour, day after day, week after week.

In terms of science we say it is a secondary sexual characteristic, but viewed in the light of the spirit of the whole, what is it except a song of praise and thanksgiving—joy in life, joy in the day, joy in the mate and brood, joy in the paternal and maternal instincts and solicitudes, a voice from the heart of nature that the world is good, thanksgiving for the universal beneficence without which you and I and the little bird would not be here? In foul weather as in fair, the bird sings. The rain and the cold do not silence him.

There are few or no pessimists among the birds. One might think the call of the turtle-dove, which sounds to us like "woe, woe, woe," a wail of despair; but it is not. It really means "love, love,

love." The plaint of the wood pewee, pensive and like a human sigh, is far from pessimistic, although in a minor key. The cuckoo comes the nearest to being a pessimist, with his doleful call, and the eathird and the jay, with their peevish and complaining notes, might well be placed in that category, were it not for their songs when the love passion makes optimists even of them. The strain of the hermit thrush which floats down to me from the wooded heights above day after day at all hours, but more as the shades of night are falling—what does this pure, serene, exalted strain mean but that, in Browning's familiar words,

God's in his heaven— All's right with the world!

The bird may sing for his mate and his brood alone, but what puts it into his heart to do that? Certainly it is good to have a mate and a brood!

A new season brings new experiences with the same old familiar birds, or new thoughts about them. This season I have had new impressions of our cuckoos, which are oftener heard than seen. Of the two species, the black-billed and the yellow-billed, the former prevails in the latitude of New England, and the latter farther south. We cannot hail our black-billed as "blithe newcomer," as Wordsworth does his cuckoo. "Doleful

newcomer" would be a fitter title. There is nothing cheery or animated in his note, and he is about as much a "wandering voice" as is the European bird. He does not babble of sunshine and of flowers. He is a prophet of the rain, and the country people call him the rain crow. All his notes are harsh and verge on the weird. His nesting-instincts seem to lead him, or rather her, to the thorn-bushes as inevitably as the grass finch's lead her to the grass.

The cuckoo seems such an unpractical and inefficient bird that it is interesting to see it doing things. One of our young poets has a verse in which he sings of

The solemn priestly bumble-bee That marries rose to rose.

He might apply the same or similar adjectives to the cuckoo. Solemn and priestly, or at least monkish, it certainly is. It is a real recluse and suggests the druidical. If it ever frolics or fights, or is gay and cheerful like our other birds, I have yet to witness it.

During the last summer, day after day I saw one of the birds going by my door toward the clump of thorn-trees with a big green worm in its bill. One afternoon I followed it. I found the bird sitting on a branch very still and straight, with the worm still in its beak. I sat down in the tentlike thicket and watched him. Presently he uttered that harsh,

guttural note of alarm or displeasure. Then after a minute or two he began to shake and bruise the worm. I waited to see him disclose the nest, but he would not, and finally devoured the worm. Then he hopped or flitted about amid the branches above me, uttering his harsh note every minute or two.

After a half-hour or more I gave it up and parted the curtain of thorny branches which separated the thicket from the meadow and stepped outside. I had moved along only a few paces when I discovered the nest on an outer branch almost in the sunshine. The mother bird was covering her half-grown young. As I put up my hand toward her, she slipped off, withdrew a few feet into the branches, and uttered her guttural calls.

In the nest were four young, one of them nearly ready to leave it, while another barely had its eyes open; the eldest one looked frightened, while the youngest lifted up its head with open mouth for food. The most mature one pointed its bill straight up and sat as still as if petrified. The whole impression one got from the nest and its contents was of something inept and fortuitous. But the cares of a family woke the parents up and they got down to real work in caring for their charge.

The young had a curious, unbirdlike aspect with threadlike yellow stripes, and looked as if they were wet or just out of the shell.

That strain of parasitism in the blood of the cuckoo—how long in the history of its race since it mastered it and became its own nest-builder? But a crude and barbarous nest-builder it certainly is. Its "procreant cradle" is built entirely of the twigs of the thorn-tree, with all their sharp needle-like spines upon them, some of the twigs a foot long, bristling with spines, certainly the most forbidding-looking nest and nursery I ever beheld—a mere platform of twigs about four inches across, carpeted with a little shredded brown fibrous material, looking as if made from the inner bark of some tree, perhaps this very thorn.

In the total absence of the tent caterpillar or apple-tree worm, which is their favorite food, cuckoos seem to succeed in finding a large green worm here in the orchard. In the beech woods they can find a forest worm that is riddling the leaves of the beeches. The robins are there in force and I hope the cuckoos will join them in the destruction of the worms. It is interesting to see the cuckoo fly by several times a day with a big green worm in its beak. Inefficient as it seems, here it is doing things. It is like seeing a monk at the plough-handle. It is a solemn creature; its note is almost funereal.

Our indigo bunting is as artful and secretive about its nesting-habits as any of the sparrows. The male bird seems to know that his brilliant

color makes him a shining mark, and he keeps far away from the nest, singing at all hours of the day in a circle around it, the radius of which must be more than fifty yards. In one instance the nest was near the house, almost under the clothes-line, in a low blackberry-bush, partly masked by tall-growing daisies and timothy. I chanced to pass near it, when off went the little brown bird with her sharp, chiding manners. She is a very emphatic creature. It is yea and nay with her every time.

The male seems like a bit of the tropics. He is not a very pleasing singer, but an all-day one and an all-summer one. He is one of our rarer birds. In a neighborhood where you see scores of sparrows and goldfinches you will see only one pair of indigobirds. Their range of food is probably very limited. I have never chanced to see them taking food of any kind.

How crowded with life every square rod of the fields and woods is, if we look closely enough! Beneath my leafy canopy on the edge of the beech woods where I now and then seek refuge from a hot wave, reclining on a cushion of dry leaves or sitting with my back against a cool, smooth exposure of the outcropping place rock, I am in a mood to give myself up to a day of little things. And the little things soon come trooping or looping along.

I see a green measuring-worm taking the dimensions of the rim of my straw hat which lies on

the dry leaves beside me. It humps around it in an aimless sort of way, stopping now and then and rearing up on its hind legs and feeling the vacant space around it as a blind man might hunt for a lost trail. I know what it wants: it is on its travels looking for a place in which to go through that wonderful transformation of creeping worm into a winged creature. In its higher stage of being it is a little silvery moth, barely an inch across, and, like other moths, has a brief season of life and love, the female depositing its eggs in some suitable place and then dying or falling a victim to the wood pewee or some other bird. After some minutes of groping and humping about on my hat and on dry twigs and leaves, it is lost to my sight.

A little later a large black worm comes along. It is an inch and a quarter long, and is engaged in the same quest as its lesser brother of the green, transparent coat. Magnify it enough times, say, many thousand times, and what a terrible-looking monster we should have—a traveling arch of contracting and stretching muscular tissue, higher than your head, and measuring off the ground a rod or more at a time, or standing twenty feet or more high, like some dragon of the prime. But now it is a puny insect of which the caroling vireo overhead would quickly dispose.

With a twig I lift it to a maple sapling close by and watch it go looping up the trunk. Evidently it

does n't know just where it wants to go, but it finally strikes a small sugar maple and humps up that. By chance it strikes one of the branches six feet from the ground and goes looping up that. Then, by chance, in its aimless reachings it hits one of three small branches and climbs that a foot or more, and a dry twig, six or eight inches long, is seized and explored. At the end of it the creature tarries a minute or more, reaching out in the empty space, then turns back and hits a smaller twig on this twig about an inch long. This it explores over and over and sounds the depths that surround it, then loops back again to the end of the main twig it has just explored, profiting nothing by experience: then retraces its steps and measures off another small branch, and is finally lost to sight amid the leaves.

Has the course of life up through geologic time been in any way like this? There has been the push of life, the effort to get somewhere, but has there been no more guiding principle than in the case of this worm? The singular thing about the worm is its incessant reachings forth into surrounding space, searching, searching, sounding, sounding, as if to be sure that no chance to make a new connection is missed.

Finally the black worm comes to rest and, clinging by its hind feet, lets itself down and simulates a small dry twig, in which disguise it would deceive

the sharpest-eyed enemy. No doubt it passed the night posing as a twig.

Among the sylvan denizens that next came upon the stage were a hummingbird, a little red newt, and a wood frog. The hummer makes short work of everything: with a flash and a hum it is gone. This one seemed to be exploring the dry twigs for nesting-material, either spiders' webs or bits of lichen. For a brief moment it perched on a twig a few yards from me. My ardent wish could not hold it any longer. Truly a fairy bird, appearing and vanishing like a thought, familiar with the heart of all the flowers and taking no food grosser than their nectar, the winged jewel of the poets, the surprise and delight of all beholders—it came like a burnished meteor into my leafy alcove and was gone as quickly.

All sylvan things have a charm and delicacy of their own, all except the woodchuck; wherever he is, he is of the earth earthy. The wood frog is known only to woodsmen and farm boys. He is a real sylvan frog, as pretty as a bird, the color of the dry leaves, slender and elegant in form and quick and furtive in movement. My feet disturbed one in the bed of dry leaves. Slowly I moved my hand toward him and stroked his back with a twig. If you can tickle a frog's back in any way you put a spell upon him. He becomes quite hypnotized. He was instantly responsive to my passes. He

began to swell and foreshorten, and when I used my finger instead of the twig, he puffed up very rapidly, rose up more upon his feet, and bowed his head. As I continued the titillation he began to give forth broken, subdued croaks, and I wondered if he were going to break out in song. He did not, but he seemed loath to go his way. How different he looked from the dark-colored frogs which in large numbers make a multitudinous croaking and clucking in the little wild pools in spring! He wakes up from his winter nap very early and is in the pools celebrating his nuptials as soon as the ice is off them, and then in two or three days he takes to the open woods and assumes the assimilative coloring of the dry leaves.

The little orange-colored salamander, a most delicate and highly colored little creature, is as harmless as a baby, and about as slow and undecided in its movements. Its cold body seems to like the warmth of your hand. Yet in color it is as rich an orange as the petal of the cardinal flower is a rich scarlet. It seems more than an outside color; it is a glow, and renders the creature almost transparent, an effect as uniform as the radiance of a precious stone. Its little, innocent-looking, three-toed foot, or three and a half toed—how unreptilian it looks through my pocket glass! A baby's hand is not more so. Its throbbing throat, its close-shut mouth, its jet-black eyes

with a glint of gold above them—only a close view of these satisfies one.

Here is another remarkable transformation among the small wild folk. In the spring he is a dark, slimy, rather forbidding "lizard" in the pools; now he is more beautiful than the jewel-weed in the woods. This is said to be an immature form, which returns to the ponds and matures the next season; but whether it is the male or the female that assumes this bright hue, or both, I do not know. The coat seems to be its midsummer holiday uniform which is laid aside when it goes back to the marshes to hibernate in the fall.

Wild creatures so unafraid are sure to have means of protection that do not at once appear. In the case of the newt it is evidently an acrid or other disagreeable secretion, which would cause any animal to repent that took it in its mouth. It is even less concerned at being caught than is the skunk, or porcupine, or stink-bug.

In my retreat I was unwittingly intruding upon the domain of another sylvan denizen, the chipmunk. One afternoon one suddenly came up from the open field below me with his pockets full of provender of some sort; just what sort I wondered, as there was no grain or seeds or any dry food that it would be safe to store underground for the winter.

Beholding me sitting there within two yards of his den was a great surprise to him. He eyed me

NEAR VIEWS OF WILD LIFE

a long time—squirrel time—making little, spasmodic movements on the flat stone above his den. At a motion of my arm he darted into his hole with an exultant chip. He was soon out with empty pockets, and he then proceeded to sound his little tocsin of distrust or alarm so that all the sylvan folk might hear. As I made no sign, he soon ceased and went about his affairs.

All this time, behind and above me, concealed by a vase fern, reposed that lovely creature of the twilight, the luna moth, just out of her chrysalis, drying and inflating her wings. I chanced to lift the fern screen, and there was this marvel! Her body was as white and spotless as the snow, and her wings, with their Nile-green hue, as fair and delicate as—well, as only those of a luna moth can be. It is as immaculate as an angel. With a twig I carefully lifted her to the trunk of a maple sapling, where she clung and where I soon left her for the night.

While I was loitering there on the threshold of the woods, observing the small sylvan folk, about a hundred yards above me, near the highway, was a bird's nest of a kind I had not seen for more than a score of years, the nest of the veery, or Wilson's thrush. Some friends were camping there with their touring-car outfit in a fringe of the beech woods, and passed and repassed hourly within a few yards of the nest, and, although they each had

sharp eyes and sharp ears, they had neither seen nor heard the birds during the two days they had been there.

While calling upon them I chanced to see the hurried movements of a thrush in the low trees six or seven yards away. The bird had food in its beak, which caused me to keep my eye upon it. It quickly flew down to a small clump of ferns that crowned a small knoll in the open, about ten feet from the border of the woods. As it did so, another thrush flew out of the ferns and disappeared in the woods. Their stealthy movements sent a little thrill through me, and I said, Here is a treasure. I parted the ferny screen, and there on the top of the small knoll was the nest with two half-fledged young.

A mowing-machine in a meadow in front of my door gave an unkind cut to a sparrow that had a nest in the clover near the wall. The mower chanced to see the nest before the sickle-bar had swept over it. It contained four young ones just out of the shell. At my suggestion the mower carefully placed it on the top of a stone wall. The parent birds were not seen, but we naturally reasoned that they would come back and would alight upon the wall to make observations.

But that afternoon and the next morning passed, and we saw no anxious bird parents. The young lifted up their open mouths whenever I looked into

NEAR VIEWS OF WILD LIFE

the nest and seemed to be more contented than abandoned birds usually are. The next night was unseasonably cold, and I expected to find the nestlings dead in the morning; but they were not, and, strangely enough, for babes in the wood or rather on a stone wall, they seemed to be doing well. Maybe the mother bird is still caring for them, I said to myself, and I ambushed myself across the road opposite to them and watched.

I had not long to wait. The mother sparrow came slyly up and dropped some food into an open mouth and disappeared.

Who does not feel a thrill of pleasure when, in sauntering through the woods, his hat just brushes a vireo's nest? This was my experience one morning. The nest was like a natural growth, hanging there like a fairy basket in the fork of a beech twig, woven of dry, delicate, papery, brown and gray wood products, just high enough to escape prowling ground enemies and low enough to escape sharp-eved tree enemies. Its safety was in its artless art. It was a part of the shadows and the green-and-brown solitude. The weaver had bent down one of the green leaves and made it a part of the nest; it was like the stroke of a great artist. Then the dabs of white here and there, given by the fragments of spiders' cocoons-all helped to blend it with the flickering light and shade.

I gently bent down the branch and four con-

fident heads with open mouths instantly appeared above the brim. The mother bird meanwhile was flitting about in the branches overhead, peering down upon me and uttering her anxious "quay quay," equivalent, I suppose, to saying: "Get away!" This I soon did.

Most of our bird music, like our wild flowers, is soon quickly over. But the red-eyed vireo sings on into September—not an ecstatic strain, but a quiet, contented warble, like a boy whistling at his work.

VII

WITH ROOSEVELT AT PINE KNOT

It was in May during the last term of his Presidency that Roosevelt asked me to go with him down to Pine Knot, Virginia, to help him name his birds. I staved with him at the White House the night before we started. I remember that at dinner 1 there was an officer from the British army stationed in India, and the talk naturally turned on Indian affairs. I did not take part in it because I knew nothing about India, but Roosevelt was so conversant with Indian affairs and Indian history that you would think he had just been cramming on it, which I knew very well he had not. But that British officer was put on his mettle to hold his own. In fact, Roosevelt knew more about India and England's relation to it than the officer seemed to know. It was amazing to see the thoroughness of his knowledge about India.

The next morning we started off for Virginia, taking an early train.

Pine Knot is about one hundred miles from Washington. I think we left the train at Char-

¹ Mr. Burroughs's memory played him false here. The incident he speaks of was at a dinner in the White House, just before starting on the Yellowstone trip, in 1903. C. B.

lottesville, Virginia, and drove about ten miles to Pine Knot; the house is a big barnlike structure on the edge of the woods, a mile from the nearest farmhouse.

Before we reached there we got out of the wagon and walked, as there were a good many warblers in the trees—the spring migration was on. It was pretty warm; I took off my overcoat and the President insisted on carrying it. We identified several warblers there, among them the black-poll, the black-throated blue, and Wilson's black-cap. He knew them in the trees overhead as quickly as I did.

We reached Pine Knot late in the afternoon, but as he was eager for a walk we started off, he leading, as if walking for a wager. We went through fields and woods and briers and marshy places for a mile or more, when we stopped and mopped our brows and turned homeward without having seen many birds.

Mrs. Roosevelt took him to task, I think, when she saw the heated condition in which we returned, for not long afterwards he came to me and said: "Oom John, that was no way to go after birds; we were in too much of a hurry." I replied, "No, Mr. President, that isn't the way I usually go a-birding." His thirst for the wild and the woods, and his joy at returning to these after his winter in the White House, had evidently urged him on. He added, "We will try a different plan to-morrow."

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So on the morrow we took a leisurely drive along the highways. Very soon we heard a wren which was new to me. "That's Bewick's wren," he said. We got out and watched it as it darted in and out of the fence and sang.

I asked him if he knew whether the little gray gnatcatcher was to be seen there. I had not seen or heard it for thirty years. "Yes," he replied, "I saw it the last time I was here, over by a spring run."

We walked over to some plum-trees where there had been a house at one time. No sooner had we reached the spot than he cried, "There it is now!" And sure enough, there it was in full song—a little bird the shape of a tiny catbird, with a very fine musical strain.

As we were walking in a field we saw some birds that were new to me. Roosevelt also was puzzled to know what they were till we went among them and stirred them up, discovering that they were females of the blue grosbeak, with some sparrows which we did not identify.

In the course of that walk he showed me a place where he had seen what he had thought at the time to be a flock of wild pigeons. He described how they flew, the swoop of their movements, and the tree where they alighted. I was skeptical, for it had long been thought that wild pigeons were extinct, but that fact had not impressed itself upon his mind. He said if he had known there could be

any doubt about it, he would have observed them more closely. I was sorry that he had not, as it was one of the points on which I wanted indisputable evidence. We talked with the colored coachman about the birds, as he also had seen them. His description agreed with Roosevelt's, and he had seen wild pigeons in his youth; still I had my doubts. Subsequently Roosevelt wrote me that he had come to the conclusion that they had been mistaken about their being pigeons.

One day while there, as we were walking through an old weedy field, I chanced to spy, out of the corner of my eye, a nighthawk sitting on the ground only three or four yards away. I called Roosevelt's attention to it and said, "Now, Mr. President, I think with care you can drop your hat over that bird." So he took off his sombrero and crept up on the bird, and was almost in a position to let his hat drop over it when the bird flew to a near tree, alighting lengthwise on the branch as this bird always does. Roosevelt approached it again cautiously and almost succeeded in putting his hand upon it; the bird flew just in time to save itself from his hand.

One Sunday after church he took me to a field where he had recently seen and heard Lincoln's sparrow. We loitered there, reclining upon the dry grass for an hour or more, waiting for the sparrow, but it did not appear.

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During my visit there we named over seventyfive species of birds and fowl, he knowing all of them but two, and I knowing all but two. He taught me Bewick's wren and the prairie warbler, and I taught him the swamp sparrow and one of the rarer warblers; I think it was the pine warbler. If he had found the Lincoln sparrow again, he would have been one ahead of me.

I remember talking politics a little with him while we were waiting for the birds, and, knowing that he was expecting Taft to be his successor, I expressed my doubts as to Taft's being able to fill his shoes.

"Oh, yes, he can," he said confidently; "you don't know him as well as I do."

"Of course not," I admitted; "but my feeling is that, though Taft is an able and amiable man, he is not a born leader."

(I am glad to say that Mr. Taft's recent course in support of the proposed League of Nations has quite brought me around to Roosevelt's estimate of him.)

Pine Knot is a secluded place in the woods. One evening as we sat in the lamplight, he reading Lord Cromer on Egypt, and I a book on the maneating lions of Tsavo, and Mrs. Roosevelt sitting near with her needlework, suddenly Roosevelt's hand came down on the table with such a bang that it made us both jump, and Mrs. Roosevelt

exclaimed in a slightly nettled tone, "Why, my dear, what is the matter?"

He had killed a mosquito with a blow that would almost have demolished an African lion.

It occurred to me later that evening how risky it was for the President of the United States to be so unprotected—without a guard of any kind—in that out-of-the-way place, and I expressed something of this to him, suggesting that some one might "kidnap" him.

"Oh," he answered, slapping his hand on his hip pocket, "I go armed, and they would have to be mighty quick to get the drop on me."

Shortly after that, to stretch my legs a little and listen to the night sounds in the Virginia woods, I went out around the cabin and almost immediately heard some animal run heavily through the woods not far from the house. I thought perhaps it was a neighboring dog, but, on speaking of it to Mrs. Roosevelt, was told that two secret service men came every night at nine o'clock and stood on guard till morning, spending the day at a farmhouse in that vicinity. She did not let the President know of this because it would irritate him.

The only flower we saw there which was new to me was the Indian pink. Roosevelt seemed to know the flowers as well as he did the birds. Pink moccasin-flowers and the bird's-foot violet were common in that locality.

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On our return trip, Roosevelt's secretary being on the train, Roosevelt threw himself into the dictation of many letters, the wrens and the warblers already sidetracked for the business of the Administration.

I passed another night at the White House, and in the morning early we went out on the White House grounds to look for birds, our quest seeming to attract the puzzled attention of the passers-by.

"They often stare at me as though they thought me crazy," he said, "when they see me gazing up into the trees."

"Well, now they will think I am your keeper," I said.

"Yes, and I your nurse," laughed Mrs. Roosevelt. When I left, Roosevelt gave me a list of the birds that we had seen while at Pine Knot and hoped that I would sometime write up the trip; in fact, for years after, whenever we would meet, almost the first thing he would say was, "Have you written up our Pine Knot trip yet, Oom John?" And his disappointment at my failure to do so was always unmistakable.¹

¹ The following letter may be of interest in this connection. C. B.

DEAR OOM JOHN:

Did you ever get the pamphlet on Concealing Coloration? If not, I will send you another. I do hope that you will include in your coming volume of sketches a little account of the time you visited us at Pine Knot, our little Virginia camp, while I was President. I am very proud of you, Oom John, and I want

the fact that you were my guest when I was President, and that you and I looked at birds together, recorded there—and don't forget that I showed you the blue grosbeak and the Bewick's wren, and almost all the other birds I said I would!

Ever yours,

THEODORE ROOSEVELT

VIII

A STRENUOUS HOLIDAY

One August a few years ago (1918) I set out with some friends for a two weeks' automobile trip into the land of Dixie—joy-riders with a luxurious outfit calculated to be proof against any form of discomfort.

We were headed for the Great Smoky Mountains in North Carolina. I confess that mountains and men that do not smoke suit me better. Still I can stand both, and I started out with the hope that the great Appalachian range held something new and interesting for me. Yet I knew it was a risky thing for an octogenarian to go a-gypsving, and with younger men. Old blood has lost some of its red corpuscles, and does not warm up easily over the things that moved one so deeply when one was younger. More than that, what did I need of an outing? All the latter half of my life has been an outing, and an "inning" seemed more in order. Then, after fourscore years, the desire for change, for new scenes and new people, is at low ebb. The old and familiar draw more strongly. Yet I was fairly enlisted and bound to see the Old Smokies.

Pennsylvania is an impressive State, so vast, so diversified, so forest-clad—the huge unbroken

Alleghany ranges with their deep valleys cutting across it from north to south; the world of fine farms and rural homesteads in the eastern half, and the great mining and manufacturing interests in the western, the source of noble rivers; and the storehouse of many of Nature's most useful gifts to man.

The great Lincoln Highway, of course, follows the line of least resistance, but it has some formidable obstacles to surmount, and it goes at them very deliberately; and, in a powerful car, gives one a sense of easy victory. But I smile as I remember persons with lighter cars standing beside them at the foot of those long, winding ascents, nursing and encouraging them, as it were, and preparing them for the heavy task before them. An almost perfect road, worthy of its great namesake, but an Alleghany range which you cannot get around or through gives the automobilist pause.

As we were hurled along over the great highway the things I remember with the most satisfaction were the groups or processions of army trucks we met coming east. The doom of kaiserism was written large on that Lincoln Highway in that army of resolute, slow-moving army trucks. Dumb, khakicolored fighters on wheels, staunch, powerful-looking, a host of them, rolling eastward toward the seat of war, some loaded with soldiers, some with camp equipments, and all hinting of the enormous

resources the fatuous Kaiser had let loose upon himself in this far-off land. On other highways the weapons and materials of war were converging toward the great seaports in the same way. The silent, grim, processions—how impressive they were!

Pittsburgh is a city that sits with its feet in or very near the lake of brimstone and fire, and its head in the sweet country air of the hill-tops. I think I got nearer the infernal regions there than I ever did in any other city in this country. One is fairly suffocated at times driving along the public highway on a bright, breezy August day. It might well be the devil's laboratory. Out of such blackening and blasting fumes comes our civilization. That weapons of war and of destructiveness should come out of such pits and abysses of hell-fire seemed fit and natural, but much more comes out of them—much that suggests the pond-lily rising out of the black slime and muck of the lake bottoms.

We live in an age of iron and have all we can do to keep the iron from entering our souls. Our vast industries have their root in the geologic history of the globe as in no other past age. We delve for our power, and it is all barbarous and unhandsome. When the coal and oil are all gone and we come to the surface and above the surface for the white coal, for the smokeless oil, for the winds and

the sunshine, how much more attractive life will be! Our very minds ought to be cleaner. We may never hitch our wagons to the stars, but we can hitch them to the mountain streams, and make the summer breezes lift our burdens. Then the silver age will displace the iron age.

The western end of Pennsylvania is one vasa coal-mine. The farmer has only to dig into the side of the hill back of his house and take out his winter's fuel. I was surprised to see how smooth and gentle and grassy the hills looked. It is a cemetery of the old carboniferous gods, and it seems to have been prepared by gentle hands and watched over with kindly care. Good crops of hay and grain were growing above their black remains, and rural life seemed to go on in the usual way. The shuffling and the deformation of the earth's surface which attended the laying down of the coal-beds is not anywhere evident. The hand of that wonderful husbandman, Father Time, has smoothed it all out.

Our first camp was at Greensborough, thirty or more miles southeast of Pittsburgh, an ideal place—a large, open oak grove on a gentle eminence well carpeted with grass, with wood and water in abundance. But the night was chilly. Folding camp-cots are poor conservers of one's bodily warmth, and until you get the hang of them and equip yourself with plenty of blankets, Sleep enters

your tent very reluctantly. She tarried with me but briefly, and at three or four in the morning I got up, replenished the fire, and in a camp-chair beside it indulged in the "long, long thoughts" which belong to age much more than to youth. Youth was soundly and audibly sleeping in the tents with no thoughts at all.

The talk that first night around the camp-fire gave us an inside view of many things about which we were much concerned. The ship question was the acute question of the hour and we had with us for a few days Commissioner Hurley, of the Shipping Board, who could give us first-hand information, which he did to our great comfort.

Our next stop was near Uniontown, Pennsylvania, where for that night we slept indoors.

On the following day one of the big cars had an accident—the fan broke, and the iron punctured the radiator. It looked as if we should be delayed until a new radiator could be forwarded from Pittsburgh. We made our way slowly to Connellsville, where there was a good garage, but the best workmen there shook their heads; they said a new radiator was the only remedy. All four arms of the fan were broken off and there was no way to mend them. This verdict put Mr. Ford on his mettle. "Give me a chance," he said, and, pulling off his coat and rolling up his sleeves, he fell to work. In two hours we were ready to go ahead. By the aid

of drills and copper wire the master mechanic had stitched the severed arms to their stubs, soldered up the hole in the radiator, and the disabled car was again in running order.

On August the 31st we made our camp on the banks of a large, clear creek in West Virginia called Horseshoe Run. A smooth field across the road from the creek seemed attractive, and I got the reluctant consent of the widow who owned it to pitch our camp there, though her patch of roastingears near by made her hesitate; she had probably had experiences with gypsy parties, and was not impressed in our favor even when I gave her the names of two well-known men in our party. But Edison was not attracted by the widow's open field; the rough, grassy margin of the creek suited him better, and its proximity to the murmuring, eddying, rocky current appealed to us all, albeit it necessitated our mess-tent being pitched astride a shallow gully, and our individual tents elbowing one another in the narrow spaces between the boulders. But wild Nature, when you can manage her, is what the camper-out wants. Pure elements-air, water, earth—these settle the question; Camp Horseshoe Run had them all. It was here, I think, that I got my first view of the nonpareil, or painted bunting-a bird rarely seen north of the Potomac.

An interesting object near our camp was an old, unused grist-mill, with a huge, decaying overshot

oaken water-wheel. We all perched on the wheel and had our pictures taken.

At our lunch that day, by the side of a spring, a twelve-year-old girl appeared in the road above us with a pail of apples for sale. We invited her into our camp, an invitation she timidly accepted. We took all of her apples. I can see her yet with her shining eyes as she crumpled the new one-dollar bill which one of the party placed in her hand. She did not look at it: the feel of it told the story to her. We quizzed her about many things and got straight, clear-cut answers-a very firm, levelheaded little maid. Her home was on the hill above us. We told her the names of some of the members of the party, and after she had returned home we saw an aged man come out to the gate and look down upon us. An added interest was felt whenever we came in contact with any of the local population. Birds and flowers and trees and springs and mills were something, but human flowers and rills of human life were better. I do not forget the other maiden, twelve or thirteen years old, to whom we gave a lift of a few miles on her way. She had been on a train five times, and once had been forty miles from home. Her mother was dead and her father lived in Pennsylvania, and she was living with her grandfather. When asked how far it was to Elkins she said, "Ever and ever so many miles."

The conspicuous roadside flowers for hundreds of miles, in fact, all the way from Pennsylvania to North Carolina, were the purple eupatorium, or Joe-Pye-weed, and the ironweed—stately, hardy growths, and very pleasing to look upon, the ironweed with its crimson purple, and the eupatorium with its massive head of soft, pinkish purple.

August the 22d we reached Cheat River in West Virginia, a large, clear mountain trout-brook. It crossed our path many times that day. Every mountain we crossed showed us Cheat River on the other side of it. It was flowing by a very devious course northwest toward the Ohio. We were working south and east.

We made our camp that night on the grounds of the Cheat Mountain Club, on the banks of the river—an ideal spot. The people at the big clubhouse gave us a hospitable welcome and added much to our comfort. I found the forests and streams of this part of West Virginia much like those of the Catskills, only on a larger scale, and the climate even colder. That night the mercury dropped to thirty. On June the 24th they had a frost that killed all their garden truck. The paper outlines of big trout which covered the walls in the main room of the clubhouse told the story of the rare sport the club-members have there. Evidently Cheat River deserves a better name.

The mountains and valleys of the Virginias all

present a marked contrast to those of New York and Pennsylvania. They were not rubbed down and scooped out by the great ice-sheet that played such a part in shaping our northern landscapes. The valleys are markedly V-shaped, while ours are markedly U-shaped. The valley sides are so steep that they are rarely cultivated; the farm land for the most part lies on the tops of the broad, rounded hills, though we passed through some broad, open river valleys that held miles upon miles of beautiful farms in which hay and oats were still being harvested. Everywhere were large fields of buckwheat, white with bloom, and, I presume, humming with bees.

Here and there, by the rocks and the boulders strewn over the landscape, I saw evidences of large local glaciers that had hatched in these mountains during the great Ice Age.

We made camp at Bolar Springs on August the 23d—a famous spring, and a beautiful spot. We pitched our tents among the sugar maples, and some of the party availed themselves of the public bathhouse that spanned the overflow of the great spring. The next night our camp was at Wolf Creek, not far from the Narrows—a beautiful spot, marred only by its proximity to the dusty highway. It was on the narrow, grassy margin of a broad, limpid creek in which the fish were jumping. Some grazing horses disturbed my sleep early

in the morning, but on the whole I have only pleasant memories of our camp at Wolf Creek.

We were near a week in Virginia and West Virginia, crossing many times the border between the two States, now in one, then in the other, all the time among the mountains, with a succession of glorious views from mountain-tops and along broad, fertile valleys. Now we were at Warm Springs, then at Hot Springs, then at White Sulphur, or at Sweet Water Springs. Soft water and hard water, cold water and warm water, mineral water and trout-streams, companion one another in these mountains. This part of the continent got much folded and ruptured and mixed up in the building, and the elements are unevenly distributed.

I think to most of us West Virginia had always been a rather hazy proposition, and we were glad to get a clear impression of it. We certainly became pretty intimate with the backbone of the continent—or with its many backbones, as its skeleton seems to be a very multiplex affair. The backbones of continents usually get broken in many places, but they serve their purpose just as well. In fact, our old Earth is more like an articulate than a vertebrate. Its huge shell is in many sections.

One of our camps we named Camp Lee, the name of the owner of the farm. One of the boys there, Robert E. Lee, made himself very useful in bringing wood and doing other errands.

A privation, which I think Mr. Edison and I felt more than did the others, was the scanty or delayed war news; the local papers, picked up here and there, gave only brief summaries, and when in the larger towns we could get some of the great dailies, the news was a day or two old. When one has hung on the breath of the newspapers for four exciting years, one is lost when cut off from them.

Such a trip as we were taking was, of course, a kind of a lark, especially to the younger members of the party. Upon Alleghany Mountain, near Barton, West Virginia, a farmer was cradling oats on a side-hill below the road. Our procession stopped, and the irrepressible Ford and Firestone were soon taking turns at cradling oats, but with doubtful success. A photograph shows the farmer and Mr. Ford looking on with broad smiles, watching Mr. Firestone with the fingers of the cradle tangled in the oats and weeds, a smile on his face also, but decidedly an equivocal smile—the trick was not so easy as it looked. Evidently Mr. Ford had not forgotten his cradling days on the home farm in Michigan.

Camp-life is a primitive affair, no matter how many conveniences you have, and things of the mind keep pretty well in the background. Occasionally around the campfire we drew Edison out on chemical problems, and heard formula after formula come from his lips as if he were reading

them from a book. As a practical chemist he perhaps has few, if any, equals in this country. It was easy to draw out Mr. Ford on mechanical problems. There is always pleasure and profit in hearing a master discuss his own art.

A plunge into the South for a Northern man is in many ways a plunge into the Past. As soon as you get into Virginia there is a change. Things and people in the South are more local and provincial than in the North. For the most part, in certain sections, at least, the county builds the roads (macadam), and not the State. Hence you pass from a fine stone road in one county on to a rough dirt road in the next. Toll-gates appear. In one case we paid toll at the rate of two cents a mile for the cars, and five cents for the trucks. Grist-mills are seen along the way, driven by overshot wheels. and they are usually at work. A man or a boy on horseback, with a bag of grain or of meal behind him, going to or returning from the mill, is a frequent sight; or a woman on horseback, on a sidesaddle, with a baby in her arms, attracts your attention. Thus my grandmother went to mill in pioneer days in the Catskills.

The absence of bridges over the small streams was to us a novel feature. One of the party called these fording places, "Irish bridges." They are made smooth and easy, and gave us no trouble. Another Southern feature, indicating how far

behind our Northern and more scientific farming the South still is, are the groups of small haystacks in the meadows with poles sticking out of their tops, letting the rain and the destructive bacteria into their hearts. Among the old-fashioned features of the South much to be commended are the large families. In a farmhouse near which we made camp one night there were thirteen children, the eldest of whom was at the front in France. The schools were in session in late August, and the schoolrooms were well filled with pupils.

No doubt there are many peculiar local customs of which the hurrying tourist gets no inkling. At a station in the mountains of North Carolina a youngish, well-clad countryman, smoking his pipe, stood within a few feet of my friend and me and gazed at us with the simple, blank curiosity of a child. There was not the slightest gleam of intelligent interest, or self-consciousness in his face; it was the frank stare of a five-year-old boy. He belongs to a type one often sees in the mountain districts of the South—good human stuff, valiant as soldiers, and industrious as farmers, but so unacquainted with the great outside world, their unsophistication is shocking to see.

It often seemed to me that we were a luxuriously equipped expedition going forth to seek discomfort, for discomfort in several forms—dust, rough roads, heat, cold, irregular hours, accidents—is pretty

sure to come to those who go a-gypsying in the South. But discomfort, after all, is what the camper-out is unconsciously seeking. We grow weary of our luxuries and conveniences. We react against our complex civilization, and long to get back for a time to first principles. We cheerfully endure wet, cold, smoke, mosquitoes, black flies, and sleepless nights, just to touch naked reality once more.

Our two chief characters presented many contrasts: Mr. Ford is more adaptive, more indifferent to places, than is Mr. Edison. His interest in the stream is in its potential water-power. He races up and down its banks to see its fall, and where power could be developed. He never ceases to lament so much power going to waste, and points out that if the streams were all harnessed, as they could easily be, farm labor everywhere, indoors and out, could be greatly lessened. He dilates upon the benefit that would accrue to every country neighborhood if the water-power that is going to waste in its valley streams were set to work in some useful industry, furnishing employment to the farmers and others in the winter seasons when the farms need comparatively little attention. He is always thinking in terms of the greatest good to the greatest number. He aims to place his inventions within reach of the great mass of the people. As with his touring-car, so with his tractor engine.

he has had the same end in view. Nor does he forget the housewife. He has plans afoot for bringing power into every household that will greatly lighten the burden of the women-folk.

Partly owing to his more advanced age, but mainly, no doubt, to his meditative and introspective cast of mind. Mr. Edison is far less active than is Mr. Ford. When we would pause for the midday lunch, or to make camp at the end of the day, Mr. Edison would sit in his car and read, or curl up, boy fashion, under a tree and take a nap, while Mr. Ford would inspect the stream or busy himself in getting wood for the fire. Mr. Ford is a runner and a high kicker, and frequently challenged some of the party to race with him. He is also a persistent walker, and from every camp, both morning and evening, he sallied forth for a brisk half-hour walk. His cheerfulness and adaptability on all occasions, and his optimism in regard to all the great questions, are remarkable. His good-will and tolerance are boundless. Notwithstanding his practical turn of mind, and his mastery of the mechanical arts and of business methods, he is through and through an idealist. As tender as a woman, he is much more tolerant. He looks like a poet, and conducts his life like a philosopher. No poet ever expressed himself through his work more completely than Mr. Ford has expressed himself through his car and his tractor engine. They typify

him; not imposing, nor complex, less expressive of power and mass than of simplicity, adaptability, and universal service, they typify the combination of powers and qualities which make him a beneficent, a likable, and a unique personality. Those who meet him are invariably drawn to him. He is a national figure, and the crowds that flock around the car in which he is riding, as we pause in the towns through which we pass, are not paying their homage merely to a successful car-builder or business man, but to a beneficent human force, a great practical idealist whose good-will and spirit of universal helpfulness they have all felt. He has not only brought pleasure and profit into their lives, but has illustrated and written large upon the pages of current history a new ideal of the business manthat of a man whose devotion to the public good has been a ruling passion, and whose wealth has inevitably flowed from the depth of his humanitarianism. He has taken the people into partnership with him, and has eagerly shared with them the benefits that are the fruit of his great enterprise—a liberator, an emancipator, through channels that are so often used to enslave or destroy.

In one respect, essentially the same thing may be said of Mr. Edison: his first and leading thought has been, What can I do to make life easier and more enjoyable to my fellow-men? He is a great

chemist, a trenchant and original thinker on all the great questions of life, though he has delved but little into the world of art and literature—a practical scientist, plus a meditative philosopher of profound insight. And his humor is delicious. We delighted in his wise and witty sayings. A good camper-out, he turns vagabond very easily, can go with hair disheveled and clothes unbrushed as long as the best of us, and can rough it week in and week out and wear that benevolent smile. He eats so little that I think he was not tempted by the chickenroosts or turkey-flocks along the way, nor by the cornfields and apple-orchards, as some of us were, but he is second to none in his love for the open and for wild nature.

Mr. Firestone belongs to an entirely different type—the clean, clear-headed, conscientious business type; always on his job, always ready for whatever comes; in no sense an outdoor man; always at the service of those around him; a man generous, kindly, appreciative, devoted to his family and his friends; sound in his ideas—a manufacturer who has faithfully and honestly served his countrymen.

It is after he gets home that a meditative man really makes such a trip. All the unpleasant features are strained out or transformed. In retropect it is all enjoyable, even the discomforts. I am aware that I was often irritable and ungracious, but

my companions were tolerant, and gave little heed to the flitting moods of an octogenarian. Now, at this distance, and sitting beside my open fire at Slabsides, I look upon the whole trip with unmixed pleasure.

IX

UNDER GENIAL SKIES

1. A SUN-BLESSED LAND

THE two sides of our great sprawling continent, the East and West, differ from each other almost as much as day differs from night. On the coast of southern California the dominant impression made upon one is of a world made up of three elementssun, sea, and sky. The Pacific stretches away to the horizon like a vast, shining, gently undulating floor. Its waves are longer and come in more languidly than they do upon the Atlantic coast. justifies its name. The passion and fury of the Eastern seas I got no hint of, even in winter. rocks, all that I saw of them, are soft and friable. The languid waves rapidly wear them down. They are non-strenuous rocks, lifted up out of a nonstrenuous sea. The mountains that tower four or five thousand feet along the coast are of the same character. They are young, and while they carry their heads very high, they are soft and easily disintegrated compared with the granite of our coast.

As a rule, young mountains always wear the look of age, from their deep lines and jagged and angular character, while the really old mountains wear the look of youth from their comparative smoothness,

their unwrinkled appearance, their long, flowing lines. Time has taken the conceit all out of them.

The annual rainfall in the Far West is only about one third of what it is on the eastern side of the continent. And the soil is curiously adapted to the climate. Trees flourish and crops are grown there under arid conditions that would kill every green thing on the Atlantic seaboard. The soil is clay tempered with a little sand, probably less than ten per cent of it by weight is sand. I washed the clay out of a large lump of it and found the sand a curious heterogeneous mixture of small and large, light and dark grains of all possible forms. The soil does not bake as do our clay soils, and keeps moist when ours would almost defy the plough. Under cultivation it works up into a good tillable condition. Its capacity to retain moisture is remarkable, as if it were made for a scant rainfall. As a crop-producing soil, it has virtues which I am at a loss to account for. Root vegetables grown here have a sweetness, and above all, a tenderness, of which we know nothing in the East. Much sunshine in our climate makes root vegetables fibrous and tough.

I more than half believe that the wonderful sweetness of the bird songs here, such as that of the meadowlark, is more or less a matter of climate; the quality of the sunshine seems to have affected their vocal cords. The clear, piercing, shaft-like

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note of our meadowlark contrasts with that of the Pacific variety as our hard, brilliant blue skies contrast with the softer and tenderer skies of this sunblessed land.

II. LAWN BIRDS

To have a smooth grassy lawn about your house on the Pacific coast is to have spread out before you at nearly all hours of the day a pretty spectacle of wild-bird life. Warblers, sparrows, thrushes, titlarks, and plovers flutter across it as thick as autumn leaves—not so highly colored, yet showing a pleasing variety of tints, while the black pheebe flits about your porch and arbor vines.

Audubon's warbler is the most numerous, probably ten to one of any other variety of birds. Then the white-crowned sparrows, Gambel's sparrow, the tree sparrow, and one or two other sparrows of which I am not sure are next in number.

Two species of birds from the Far North are usually represented by a solitary specimen of each, namely, the Alaska hermit thrush and the American pipit, or titlark. The thrush is silent, but has its usual trim, alert look. The pipit is the only walker in the group. It walks about like our oven-bird with the same pretty movement of the head and a teetering motion of the hind part of the body.

While in Alaska, in July, 1899, with the Harriman Expedition, I found the nest of the pipit far

up on the side of a steep mountain. It was tucked in under a mossy tuft and commanded a view of sea and mountain such as Alaska alone can afford.

But the most conspicuous and interesting of all these lawn birds are the ring-necked plovers, or killdeers. Think of having a half-dozen or more of those wild, shapely creatures, reminiscent of the shore and of the spirit of the tender, glancing April days, running over your lawn but a few yards from you! Their dovelike heads, their long, slender legs, that curious, mechanical jerking up-and-down movement of their bodies, their shrill, disconsolate cries as they take flight, their beautiful and powerful wings and tail, and their mastery of the air—all arrest your attention or challenge your admiration. They bring the distant and the furtive to your very door. All climes and lands wait upon their wings. They fly around the world.

The plovers are the favored among birds. Beauty, speed, and immunity from danger from birds of prey are theirs. Ethereal and aerial creatures! Is that the cry of the sea in the bird's voice? Is that the motion of the waves in its body? Is that the restlessness of the surf in its behavior?

However high and far it may fly, it has to come back to earth as we all do. It comes to our lawn to feed upon earthworms. The other birds are all busy picking up some minute fly or insect that harbors in the grass, but the plover is here for game that

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harbors in the turf. His methods are like those of the robin searching for grubs or angle-worms. He scrutinizes the turf very carefully as he runs about over it, making frequent drives into it with his bill, but only now and then seizing the prey of which he is in search. When he does so, he shows the same judgment which the robin does under like conditions. He pulls slowly and evenly, so as to make sure of the whole worm, or to compel it to let go its hold upon the soil without breaking. All birds are wise about their food-supplies.

On the beach the wild life that I see is all on wings. There are the tranquil, effortless gliding herring gulls, snow-white beneath and pearl-gray above, displaying an affluence of wing-power restful to look upon—airplanes that put forth their powers so subtly and so silently as to elude both eye and ear. At low tide I see large groups of their white and gray-blue forms seated upon the dark, moss-covered rocks. Fresh water is at a premium on this coast, and the thirsty gulls avail themselves of the makeshift of the drain-pipes from the town, which discharge on the beach.

There are the clumsy-looking but powerfulwinged birds, the brown pelicans, usually in a line of five or six, skimming low over the waves, shaping their course to the "hilly sea," often gliding on set wings for a long distance, rising and falling to clear the water—coasting, as it were, on a horizontal sur-

face, and only at intervals beating the air for more power. They are heavy, awkward-looking birds with wings and forms that suggest none of the grace and beauty of the usual shore birds. They do not seem to be formed to cleave the air, or to part the water, but they do both very successfully. When the pelican dives for his prey, he is for the moment transformed into a thunderbolt. He comes down like an arrow of Jove, and smites and parts the water in surperb style. When he recovers himself, he is the same stolid, awkward-looking creature as before.

A bird evidently not far removed from its reptilian ancestors—a bird that is at home under the water and hunts its prey there on the wing—is the black cormorant. There is a colony of several hundred of them on the face of a sea-cliff a short distance above me.

I see, at nearly all hours of the day, the black lines they make above the foaming breakers as they go and come on their foraging expeditions. In diving, they disappear under the water like the loon, and penetrate to as great depths. One does not crave an intimate acquaintance with them, but they are interesting as a part of the multitudinous life of the shore.

III. SILKEN CHAMBERS

The trap-door spider has furnished me with

one of the most interesting bits of natural history I have found on the coast. An obliging sojourner near me from one of the Eastern States had discovered a large plot of uncultivated ground above the beach that abounded in the hidden burrows of these curious animals. One afternoon he volunteered to conduct me to the place.

The ground was scantily covered with low bushy and weedy growths. My guide warned me that the quarry we sought was hard to find. I, indeed, found it so. It not only required an "eye as practiced as a blind man's touch," it required an eve practiced in this particular kind of detective work. My new friend conducted me down into the plot of ground and, stopping on the edge of it, said, "There is a nest within two feet of me." I fell to scrutinizing the ground as closely as I knew how, fairly bearing on with my eyes; I went over the soil inch by inch with my eyes, but to no purpose. There was no mark on the gray and brown earth at my feet that suggested a trap-door, or any other device. I stooped low, but without avail. Then my guide stooped, and with a long needle pried up a semi-circular or almost circular bit of the gray soil nearly the size of a silver quarter of a dollar, which hinged on the straight side of it, and behold—the entrance to the spider's castle! I was not prepared for anything so novel and artistic-a long silken chamber, about three

quarters of an inch in diameter, concealed by a silken trap-door, an inch in its greatest diameter. The under side of the door, a dull white, the color of old ivory, is slightly convex, and its top is a brownish gray to harmonize with its surroundings, and slightly concave. Its edges are beveled so that it fits into the flaring or beveled end of the chamber with the utmost nicety. No joiner could have done it better. A faint semicircular raised line of clay as fine as a hair gave the only clue. The whole effect, when the door was held open, was of a pleasing secret suddenly revealed.

Then we walked about the place, and, knowing exactly what to look for, I gave my eyes another chance, but they were slow to profit by it. My guide detected one after another, and when I failed, he would point them out to me. But presently I caught on, as they say, and began to find them unaided.

We often found the lord of the manor on duty as doorkeeper, and in no mood to see strangers. He held his door down by inserting his fangs in two fine holes near the edge and bracing himself, or, rather, herself (as, of course, it is the female), offered a degree of resistance surprising in an insect. If one persists with a needle, there is often danger of breaking the door. But when one has made a crack wide enough to allow one to see the spider, she lets go her hold and rushes farther down in her burrow.

Occasionally we found one about half the usual size, indicating a young spider, but no other sizes. My guide said they only emerge from their tunnel at night, and proved it by an ingenious mechanical device made of straws attached to the door. When the door was opened, the straws lifted up, but did not fall down when it was closed. Whenever he found the straw still up in the morning he knew the door had been opened in the night.

As they are nocturnal in habits, they doubtless prey upon other insects, such as sow-bugs and crickets, which the night brings forth. Two bright specks upon the top of the head appear to be eyes, but they are so small they probably only serve to enable them to tell night from day. I think these spiders are mainly guided by a marvelously acute tactile sense. They probably feel the slightest vibration in the earth or air, unless they have a sixth sense of which we know nothing.

All their work, the building and repairing of their nests, as well as all their hunting, is done by night. This habit, in connection with their extreme shyness, makes the task of getting at their life-histories a difficult one. The inside of the burrow seems coated with a finer and harder substance than the soil in which they are dug. It is made on the spot, the spider mixing some secretion of her own with the clay, and working it up into a finer product.

The trap-door sooner or later wears out at the hinge, and is then discarded and a new door manufactured. We saw many nests with the old door lying near the entrance. The door is made of several layers of silk and clay, and is a substantial affair.

The spider families all have the gift of genius. Of what ingenious devices and arts are they masters! How wide their range! They spin, they delve, they jump, they fly. They are the original spinners. They have probably been on their job since carboniferous times, many millions of years before man took up the art. And they can spin a thread so fine that science makes the astonishing statement that it would take four millions of them to make a thread the caliber of one of the hairs of our head—a degree of delicacy to which man can never hope to attain.

Trap-doors usually mean surprises and stratagems, secrets and betrayals, and this species of the arachnids is proficient in all these things.

The adobe soil on the Pacific coast is as well fitted to the purposes of this spider as if it had been made for her special use. But, as in all such cases, the soil was not made for her, but she is adapted to it. It is radically unlike any soil on the Atlantic coast—the soil for cañons and the rectangular water-courses, and for the trap-door spider. It is a tough, fine-grained homogeneous soil, and when dry does

not crumble or disintegrate; the cohesion of particles is such that sun-dried brick are easily made from it.

This spider is found in New Mexico, Arizona, California, and Jamaica. It belongs to the family of Mygalidae. It resembles in appearance the tarantula of Europe, described by Fabre, and has many of the same habits; but its habitation is a much more ingenious and artistic piece of workmanship than that of its European relative. The tarantula has no door to her burrow, but instead she builds about the entrance a kind of breastwork an inch high and nearly two inches in diameter, and from this fortress sallies out upon her prey. She sinks a deeper shaft than does our spider, but excavates it in the same way with similar tools, her fangs, and lines it with silk from her own body.

Our spider is an artist, evidently the master builder and architect of her kind. Considering her soft and pussy-like appearance—no visible drills for such rough work—one wonders how she excavates a burrow six inches or more deep in this hard adobe soil of the Pacific coast, and how she removes the dirt after she has loosened it. But she has been surprised at her work; her tools are her two fangs, the same weapons with which she seizes and dispatches her prey, and the rake or the *cheliceræ*. To use these delicate instruments in such coarse work, says Fabre, seems as "illogical as it would

to dig a pit with a surgeon's scalpel." And she carries the soil out in her mandibles, a minute pellet at a time, and drops it here and there at some distance from her nest. Her dooryard is never littered with it. It takes her one hour to dig a hole the size of half an English walnut, and to remove the earth.

One afternoon I cut off the doors from two nests and left them turned over, a few inches away. The next morning I found that the occupants of the nests, under cover of the darkness, had each started the construction of a new door, and had it about half finished. It seemed as if the soil on the hinge side had begun to grow, and had put out a semicircular bit of its surface toward the opposite side of the orifice, each new door copying exactly the color of the ground that surrounded it, one grav from dead vegetable matter, the other a light brick-red. I read somewhere of an experimenter who found a nest on a mossy bit of ground protectively colored in this way. He removed the lid and made the soil bare about. The spider made a new lid and covered it with moss like the old one, and her art had the opposite effect to what it had in the first case. This is typical of the working of the insect mind. It seems to know everything, and yet to know nothing, as we use the term "know."

On the second morning, one of the doors had at-

tained its normal size, but not yet its normal thickness and strength. It was much more artfully concealed than the old one had been. The builder had so completely covered it with small dry twigs about the size of an ordinary pin, and had so woven these into it, standing a few of them on end, that my eye was baffled. I knew to an inch where to look for the door, and yet it seemed to have vanished. By feeling the ground over with a small stick I found a yielding place which proved to be the new unfinished door. Day after day the door grew heavier and stronger. The builder worked at it on the under side, adding new layers of silk. There is always a layer of the soil worked into the door to give it weight and strength.

Spiders, like reptiles, can go months without food. The young, according to Fabre, go seven months without eating. They do not grow, but they are very active; they expend energy without any apparent means of keeping up the supply. How do they do it? They absorb it directly from the sun, Fabre thinks, which means that here is an animal between which and the organic world the vegetable chlorophyl plays no part, but which can take at first-hand, from the sun, the energy of life. If this is true, and it seems to be so, it is most extraordinary.

In view of the sex of the extraordinary spider I have been considering, it is interesting to remember

that one difference between the insect world and the world of animal life to which we belong, which Maeterlinck has forgotten to point out, is this:

In the vertebrate world, the male rules; the female plays a secondary part. In the insect world the reverse is true. Here the female is supreme and often eats up the male after she has been fertilized by him. Motherhood is the primary fact, fatherhood the secondary. It is the female mosquito that torments the world. It is the female spider that spins the web and traps the flies. Size, craft, and power go with the female. The female spider eats up the male after he has served her purpose; her caresses mean death. The female scorpion devours the male in the same way. Among our wild bees it is the queen alone that survives the winter and carries on the race. The big noisy blow-flies on the window-pane are females. With the honey bees the males are big and loud, but are without any authority, and are almost as literally destroyed by the female as is the male spider. The queen bee does not eat her mate, but she disembowels him. The work of the hive is done by the neuters. In the vertebrate world it is chiefly among birds of prey that the female is the larger and bolder; the care of the young devolves largely upon her. Yes, there is another exception: Among the fishes, the females are, as a rule, larger than the males; the immense number of eggs which they carry brings this about.

There are always exceptions to this dominance of the female in the insect world. We cannot corner Nature and keep her cornered. She would not be Nature if we could. With certain species of fireflies, it is the male that dominates; the female is a little soft, wingless worm on the ground, always in the larval state.

In the plant world, also, the male as a rule is dominant. Behold the showy catkins of the chestnuts, the butternuts, the hazelnuts, the willows, and other trees. The stamens of most flowers are numerous and conspicuous. Our Indian corn carries its panicle of pollen high above the silken tresses which mother the future ear.

One day I dug up a nest which was occupied by a spider with her brood of young ones. I took up a large block of earth weighing ten pounds or more, and sank it in a box of earth of its own kind. I kept it in the house under observation for a week, hoping that at some hour of day or night the spider would come out. But she made no sign. My ingenious friend arranged the same mechanical contrivance over the door which he had used successfully before. But the latch was never lifted. Madam Spider sulked or bemoaned her fate at the bottom of her den. At the end of a week I broke open the nest and found her alone. She had evidently devoured all her little ones.

I kept two nests with a spider in each in the

house for a week, and in neither case did the occupant ever leave its nest.

Apparently the young spiders begin to dig nests of their own when they are about half-grown. As to where they stay, or how they live up to that time, I have no clue. The young we found in several nests were very small, not more than an eighth of an inch long. Of the size and appearance of the male spider, and where he keeps himself, I could get no clue.

One morning I went with my guide down to the spider territory, and saw him try to entice or force a spider out of her den. The morning previous he had beguiled several of them to come up to the opening by thrusting a straw down the burrow and teasing them with it till in self-defense they seized it with their fangs and hung on to it till he drew them to the surface. But this morning the trick would not work. Not one spider would keep her hold. But with a piece of wire bent at the end in the shape of a hook, he finally lifted one out upon the ground. How bright and clean and untouched she looked! Her limbs and a part of the thorax were as black as jet and shone as if they had just been polished. No lady in her parlor could have been freer from any touch of soil or earth-stain than was she. On the ground, in the strong sunlight, she seemed to be lost. We turned her around and tried to induce her to enter

the nest again; but over and over she ran across the open door without heeding it. In the novel situation in which she suddenly found herself, all her wits deserted her, and not till I took her between my thumb and finger and thrust her abdomen into the hole, did she come to herself. The touch of that silk-lined tube caused the proper reaction, and she backed quickly into it and disappeared.

Just what natural enemy the trap-door spider has I do not know. I never saw a nest that had been broken into or in any way disturbed, except those which we had disturbed in our observations.

IV. THE DESERT NOTE

I often wonder what mood of Nature this world of cacti which we run against in the great Southwest expresses. Certainly something savage and merciless. To stab and stab again suits her humor. How well she tempers her daggers and bayonets! How hard and smooth and sharp they are! How they contrast with the thick, succulent stalks and leaves which bear them! It is a desert mood; heat and drought appear to be the exciting causes. The scarcity of water seems to stimulate Nature to store up water in vegetable tissues, just as it stimulates men to build great dams and reservoirs. These giant cacti are reservoirs of water. But why spines and prickles and cruel bayonets? They certainly cannot be for protection or defense; the

grass and other vegetation upon which the grazing animals feed are not armed with spines.

If the cacti were created that grazing animals in the desert might have something to feed upon, as our fathers' way of looking at things might lead us to believe, why was that benevolent plan frustrated by the armor of needles and spines?

Nature reaches her hungry and thirsty creatures this broad, mittened hand like a cruel joke. It smites like a serpent and stings like a scorpion. The strange, many-colored, fascinating desert! Beware! Agonies are one of her garments.

All we can say about it is that Nature has her prickly side which drought and heat aggravate. In the North our thistles and thorns and spines are a milder expression of this mood. The spines on the blackberry-bush tend against its propagation for the same reason. Among our wild gooseberries. there are smooth and prickly varieties, and one succeeds about as well as the other. Apple- and peartrees in rough or barren places that have a severe struggle for life, often develop sharp, thorny branches. It is a struggle of some kind which begets something like ill-temper in vegetationheat and drought in the desert, and browsing animals and poor soil in the temperate zones. devil's club in Alaska is one mass of spines; why, I know not. It must just be original sin. Our raspberries have prickles on their stalks, but the

large, purple-flowering variety is smooth-stemmed.

Mr. John C. Van Dyke in his work on the desert expresses the belief that thorns and spines are given to the desert plants for protection; and that if no animal were there that would eat them, they would not have these defenses. But I believe if there had never been a browsing animal in the desert the cacti would have had their thorns just the same.

Nature certainly arms her animal forms against one another. We know the quills of the porcupine are for defense, and that the skunk carries a weapon that its enemies dread, but I do not believe that any plant form is armed against any creature whose proper food it might become. Cacti carry formidable weapons in the shape of spines and thorns, but the desert conditions where they are found, heat and aridity, are no doubt their primary cause. The conditions are fierce and the living forms are fierce.

We cannot be dogmatic about Nature. From our point of view she often seems partial and inconsistent. But I would just as soon think that Nature made the adobe soil in the arid regions that the human dwellers there might have material at hand with which to construct a shelter, as that she gives spines and daggers to any of the vegetable forms to secure their safety. One may confute Mr. Van Dyke out of his own mouth. He says:

Remove the danger which threatened the extinction of a family, and immediately Nature removes the defensive armor. On the desert, for instance, the yucca has a thorn like a point of steel. Follow it from the desert to the high tropical table-lands of Mexico where there is plenty of soil and moisture, plenty of chance for yuccas to thrive, and you will find it turned into a tree and the thorn merely a dull blade-ending. Follow the sahuaro and the pitahaya into the tropics again, and with their cousin, the organ cactus, you will find them growing a soft thorn that would hardly penetrate clothing.

But are they not just as much exposed to browsing animals in the high table-lands as in the desert, if not more so?

Mr. Van Dyke asserts that Nature is more solicitous about the species than about the individual. She is no more solicitous about the one than the other. The same conditions apply to all. the species are numerous; a dozen units may be devoured while a thousand remain. A general will sacrifice many soldiers to save his army, he will sacrifice one man to save ten, but Nature's ways are entirely different. Both contending armies are hers, and she is equally solicitous about both. She wants the cacti to survive, and she wants the desert animals to survive, and she favors both equally. All she asks of them is that they breed and multiply endlessly. Notwithstanding, according to Van Dyke, Nature has taken such pains to protect her desert plants, he yet confesses that, although it seems almost incredible, it is neverthe-

less true that "deer and desert cattle will eat the cholla—fruit, stem, and trunk—though it bristle with spines that will draw blood from the human hand at the slightest touch."

This question of spines and thorns in vegetation is a baffling one because Nature's ways are so unlike our ways. Darwin failed utterly in his theory of the origin of species, because he proceeded upon the idea that Nature selects as man selects. You cannot put Nature into a formula.

Behold how every branch and twig of our red thorn bristles with cruel daggers! But if they are designed to keep away bird or beast from eating its fruit, see how that would defeat the tree's own ends! If no creature ate its little red apples and thus scattered its seeds, the fruit would rot on the ground beneath the branches, and the tribe of red thorns would not increase. And increase alone is Nature's end.

It is safe to say, as a general statement, that the animal kingdom is full of design. Every part and organ of our bodies has its purpose which serves the well-being of the whole. I do not recall any character of bird or beast, fish or insect, that does not show purpose, but in the plant world Nature seems to allow herself more freedom, or does not work on so economical a plan. What purpose do the spines on the prickly ash serve? or on the thistles? or on the blackberry, raspberry, goose-

berry bushes? or the rose? Our purple-flowering raspberry has no prickles, and thrives as well as any. The spines on the blackberry and raspberry do not save them from browsing cattle, nor their fruit from the birds. In fact, as I have said, the service of the birds is needed to sow their seeds. The devil's club of Alaska is untouchable, it is so encased in a spiny armor; but what purpose the armor serves is a mystery. We know that hard conditions of soil and climate will bring thorns on seedling pear-trees and plum-trees, but we cannot know why.

The yucca or Spanish bayonet and the centuryplant, or American aloe (Agare americana), are thorny and spiny; they are also very woody and fibrous; yet nothing eats them or could eat them. They are no more edible than cordwood or hemp ropes. This fact alone settles the defense question about spines.

V. SEA-DOGS

THERE is a bit of live natural history out here in the sea in front of me that is new and interesting. A bunch of about a dozen hair seals have their rendezvous in the unstable waves just beyond the breakers, and keep together there week after week. To the naked eye they seem like a group of children sitting there on a hidden bench of rock, undisturbed by the waves that sweep over them. Their

heads and shoulders seem to show above the water, and they appear to be having a happy time.

Now and then one may be seen swimming about or lifted up in a wall of green-blue transparent water, or leaping above the wrinkled surface in the exuberance of its animal spirits. I call them children of the sea, until I hear their loud barking, and then I think of them as dogs or hounds of the sea. Occasionally I hear their barking by night when it has a half-muffled, smothered sound.

They are warm-blooded, air-breathing animals, and there seems something incongruous in their being at home there in the cold briny deep—badgers or marmots that burrow in the waves, wolves or coyotes that hunt their prey in the sea.

Their progenitors were once land animals, but Darwinism does not tell us what they were. The whale also was once a land animal, but the testimony of the rocks throws no light upon its antecedents. The origin of any new species is shrouded in the obscurity of whole geological periods, and the short span of human life, or of the whole human history, gives us no adequate vantage-ground from which to solve the problem.

I can easily believe that these hair seals are close akin to the dog. They have five digits; they bolt their food like dogs; their sense of smell is said to be very acute, though how it could serve them in

the sea does not appear. The young are born upon the land and enter the water very reluctantly.

This seal is easily tamed. It has the intelligence of the dog and attaches itself to its master as does the dog. Its sense of direction and locality is very acute. This group of seals in front of me, day after day, and week after week, returns to the same spot in the ever-changing waters, without the variation of a single yard, so far as I can see. The locality is purely imaginary. It is a love tryst, and it seems as if some sixth sense must guide them to it. Locality is as unreal in the sea as in the sky, but these few square vards of shifting waters seem as real to these seals as if they were a granite ledge. They keep massed there on the water at that particular point, with their flippers protruding above the surface, as if they were as free from danger as so many picnickers. Yet something attracts them to this particular place. I know of no other spot along the coast for a hundred miles or more where the seals congregate as they do here. What is the secret of it? Evidently it is a question of security from their enemies. At this point the waves break much farther out than usual, which indicates a hidden reef or bench of rocks, and comparatively shallow water. This would prevent their enemies, sharks and killer whales, from stealing up beneath them

and pulling them down. I do not hear their barking in the early part of the night, but long before morning their half-muffled baying begins. Old fishermen tell me that they retire for the night to the broad belts of kelp that lie a hundred yards or more out to sea. Doubtless the beds of kelp also afford them some protection from their enemies. The fishermen feel very bitter toward them on account of the fish they devour, and kill them whenever opportunity offers. Often when I lie half asleep in the small hours of the morning, I seem to see these amphibian hounds pursuing their quarry on the unstable hills and mountains of the sea, and giving tongue at short intervals, as did the foxhounds I heard on the Catskills in my vouth.

I. NATURE'S WIRELESS

The Spirit of the Hive, which Maeterlinck makes so much of, seems to give us the key to the psychic life of all the lower orders. What one knows, all of that kind seem to know at the same instant. It seems as if they drew it in with the air they breathed. It is something like community of mind, or unity of mind. Of course it is not an intellectual process, but an emotional process; not a thought, as with us, but an impulse.

So far as we know there is nothing like a council or advisory board in the hive. There are no decrees or orders. The swarm is a unit. The members act in concert without direction or rule. If anything happens to the queen, if she is lost or killed, every bee in the hive seems to know it at the same instant, and the whole swarm becomes greatly agitated. The division of labor in the hive is spontaneous: the bees function and coöperate as do the organs in our own bodies, each playing its part without scheme or direction.

This community of mind is seen in such an instance as that of the migrating lemmings from the Scandinavian peninsula. Vast hordes of these little creatures are at times seized with an impulse

to migrate or to commit suicide, for it amounts to that. They leave their habitat in Norway and, without being deflected by any obstacle, march straight toward the sea, swimming lakes and rivers that lie in their way. When the coast is reached. they enter the water and continue on their course. Ship captains report sailing for hours through waters literally alive with them. This suicidal act of the lemmings strikes one as a kind of insanity. It is one of the most puzzling phenomena I know of in animal life. But the migration of all animals on a large scale shows the same unity of purpose. The whole tribe shares in a single impulse. The annual migration of the caribou in the North is an illustration. In the flocking birds this unity of mind is especially noticeable. The vast armies of passenger pigeons which we of an older generation saw in our youth moved like human armies under orders. They formed a unit. They came in countless hordes like an army of invasion, and they departed in the same way. Their orders were written upon the air; their leaders were as intangible as the shadows of their wings. The same is true of all our flocking birds; a flock of snow buntings, or of starlings, or of blackbirds, will act as one body, performing their evolutions in the air with astonishing precision.

In Florida, in the spring when the mating-instinct is strong, I have seen a flock of white ibises waltz-

ing about the sky, going through various intricate movements, with the precision of dancers in a ballroom quadrille. No sign, no signal, no guidance whatever. Let a body of men try it under the same conditions, and behold the confusion, and the tumbling over one another! At one moment the birds would wheel so as to bring their backs in shadow, and then would flash out the white of their breasts and under parts. It was like the opening and shutting of a giant hand, or the alternate rapid darkening and brightening of the sail of a tacking ice-boat. This is the spirit of the flock. When a hawk pursues a bird, the birds tack and turn as if linked together. When one robin dashes off in hot pursuit of another, behold how their movements exactly coincide! The hawk-hunted bird often escapes by reaching the cover of a tree or a bush, but not by dodging its pursuer, as a rabbit or a squirrel will dodge a dog. Schools of fish act with the same machine-like unity.

In the South, I have seen a large area of water, acres in extent, uniformly agitated by a school of mullets apparently feeding upon some infusoria on the surface, and then instantly, as if upon a given signal, the fish would dive and the rippling cease. It showed a unity of action as of ten thousand spindles controlled by electricity.

How quickly the emotion of fear is communi-

cated among the wild animals! How wild and alarmed the deer become after the opening of the first day of the shooting season. Those who have not seen or heard a hunter seem to feel the impending danger.

The great flocks of migrating butterflies (the monarch) illustrate the same law. In the fall they are all seized with this impulse to go South and thousands of them march in one body. At night they roost in the trees. I have seen photographs of them in which they appeared like a new kind of colored foliage covering the trees. In the return flight in the spring, the same massing again occurs. Recently the Imperial Valley in California was invaded by a vast army of worms moving from east to west. In countries that have been cursed with a plague of grasshoppers witnesses of the spectacle describe them as moving in the same way. They stopped or delayed railway trains and automobiles, their crushed bodies making the rails and highways as slippery as grease would have made them. Ten million or ten billion behaving as one.

This community of mind stands the lower orders in great stead. It makes up to them in a measure for the want of reason and judgment. In what we call telepathy we get hints of the same thing among ourselves. Telepathy is probably a survival from our earlier animal state.

II. MAETERLINCK ON THE BEE

MAETERLINCK, in his "Life of the Bee" resists the conclusion of Sir John Lubbock that flies are more intelligent than honey bees:

If you place in a bottle half a dozen bees [says Sir John], and the same number of flies, and lay the bottle down horizontally with its base to the window, you will find that the bees will persist till they die of exhaustion or hunger in their endeavors to discover an issue through the glass; while the flies, in less than two minutes, will all have sallied forth through the neck on the opposite side.

The flies are more intelligent than the bees because their problems of life are much more complicated; they are fraught with many more dangers; their enemies lurk on all sides; while the bees have very few natural enemies. There are no beecatchers in the sense that there are scores of flycatchers. I know of no bird that preys upon the worker bees. The kingbird is sometimes called the "bee martin" because he occasionally snaps up the drones. All our insectivorous birds prey upon the flies; the swallows sweep them up in the air, the swifts scoop them in, while, besides the so-called flycatchers, the cedar-birds, the thrushes, the vireos, and all other soft-billed birds, subsist more or less upon them. Try to catch a big blow-fly upon the window-pane and see how difficult the trick is, while with a honey bee it is no trick at all.

Or try to "swat" the ordinary house-fly with your hand. See how he squares himself and plants himself as your threatening hand approaches! He is ready for a trial of speed. He seems to know that your hand is slower than he is, and he is right in most cases. Now try a honey bee. The case is reversed. The bee has never been stalked; it shows no fear; and to crush it is as easy as to crush a beetle.

The wit and cunning of all animals are developed by their struggle for existence. The harder the struggle, the more their intelligence. Our skunk and porcupine are very stupid because they do not have to take thought about their own safety; Nature has done that for them.

To bolster up his case, Maeterlinck urges that "the capacity for folly so great in itself argues intelligence," which amounts to saying that the more fool you are, the more you know.

Buffon did not share Maeterlinck's high opinion of the intelligence of the bee; he thought the dog, the monkey, and the majority of other animals possess far more; an opinion which I share. Indeed, of free intelligence the bee possesses very little. The slave of an overmastering instinct, as our new nature poet, McCarthy, says,

She makes of labor an eternal lust.

Bees do wonderful things, but do them blindly.

They work as well (or better) in the darkness as in the light. The Spirit of the Hive knows and directs all. The unit is the swarm, and not the individual bee.

The bee does not know fear; she does not know love. She will defend the swarm with her life, but her fellows she heeds not.

It is very doubtful if the individual bees of the same hive recognize one another at all outside the hive. Every beehunter knows how the bees from the same tree will clip and strike at one another around his box, when they are first attracted to it. After they are seriously engaged in carrying away his honey, they pay no attention to one another or to bees from other swarms. That bees tell one another of the store of honey they have found is absurd. The unity of the swarm attends to that.

Maeterlinck tells of a little Italian bee that he once experimented upon during an afternoon, the results showing that this bee had told the news of her find to eighteen bees! Its "vocabulary" stood it in good stead!

Maeterlinck's conception of the Spirit of the Hive was an inspiration, and furnishes us with the key to all that happens in the hive. The secret of all its economies are in the phrase. Having hit upon this solution, he should have had the courage to stand by it. But he did not. He is continually forgetting it and applying to his problem the ex-

planations we apply in our dealings with one another. He talks of the power of the bees to give "expression to their thoughts and feelings"; of their "vocabulary," phonetic and tactile; he says that the "extraordinary also has a name and place in their language"; that they are able to "communicate to each other news of an event occurring outside the hive": all of which renders his Spirit of the Hive superfluous. He quotes from a French apiarist who says that the explorer of the dawn.the early bee,—like the early bird that catches the worm, returns to the hive with the news that "the lime-trees are blooming to-day on the banks of the canal": "the grass by the roadside is gay with white clover": "the sage and the lotus are about to open": "the mignonette and the lilies are overflowing with pollen." Whereupon the bees must organize quickly and arrange to divide the work. They probably call a council of the wise ones and after due discussion and formalities proceed to send out their working expeditions. "Five thousand of the sturdiest will sally forth to the lime-trees, while three thousand juniors go and refresh the white clover." "They make daily calculations as to the means of obtaining the greatest possible wealth of saccharine liquid."

When Maeterlinck speaks of "the hidden genius of the hive issuing its commands," or recognizes the existence among the bees of spiritual communi-

cations that go beyond a mere "yes" or "no," he is true to his own conception.

The division of labor among hive bees is of course spontaneous, like all their other economies—not a matter of thought, but of instinct.

Maeterlinck and other students of the honey bee make the mistake of humanizing the bee, thus making them communicate with one another as we communicate. Bees have a language, they say; they tell one another this and that; if one finds honey or good pasturage, she tells her sisters, and so on. This is all wide of the mark. There is nothing analogous to verbal communication among the insects. The unity of the swarm, or the Spirit of the Hive, does it all. Bees communicate and coöperate with one another as the cells of the body communicate and coöperate in building up the various organs. The spirit of the body coördinates all the different organs and tissues, making a unit of the body.

If some outside creature, such as a mouse or a snail, penetrates into the hive, and dies there, the bees encase it in wax, or bury it where it lies, so that it cannot contaminate the hive, and a foreign object in the body, such as a bullet in the lungs, or in the muscles, becomes encysted in an analogous manner, and is thus rendered harmless.

Kill a bee in or near the hive and the smell of its crushed body will infuriate the other bees. But

crush a bee in the fields or by the bee-hunter's box which is swarming with bees, and the units from the same hive heed it not.

Bees have no fear. They have no love or attachment for one another as animals have. If one of their number is wounded or disabled, they ruthlessly expel it from the hive. In fact, they belong to another world of beings that is absolutely oblivious of the world of which we form a part. They murder or expel the drones, after they have done their work of fertilizing the queen, in the most cruel and summary manner. Their apparent attachment to the queen, and their lovalty to her, are not personal. They do not love her. It is the Spirit of the Hive, or the cult of the swarm solicitous about itself. There are no brothers, sisters, fathers, mothers, among the bees; there are only co-workers, working not for the present, but for the future. When we enter the kingdom of the bee, we must leave all our human standards behind. These little people have no red blood, no organs of sense, as we have; they breathe and hear through their legs, their antennæ.

The drones do not know the queen as such in the hive. Their instincts lead them to search for her in the air during her nuptial flight, and they know her only there. The drones have thirteen thousand eyes, while the workers have only six thousand. This double measure of the power of

vision is evidently to make sure that the males discover the queen in her course through the air.

The guards that take their stand at the gate, the bees that become fans at the entrance to ventilate the hive, the nurses, the bees that bring the bee-bread, the bees that pack it into the cells, the bees that go forth to find a home for the new swarm, the sweepers and cleaners of the hive, the workers that bring propolis to seal up the cracks and crevices—all act in obedience to the voiceless Spirit of the Hive.

After we have discounted Maeterlinck so far as the facts will bear us out in doing, it remains to be said that he is the philosopher of the insect world. If Fabre is the Homer, as he himself has said, Maeterlinck is the Plato of that realm. How wisely he speaks of the insect world in his latest volume, "Mountain Paths":

The insect does not belong to our world. The other animals, the plants even, notwithstanding their dumb life and the great secrets which they cherish, do not seem wholly foreign to us. In spite of all, we feel a certain earthly brotherhood with them. They often surprise and amaze our intelligence, but do not utterly upset it. There is something, on the other hand, about the insect that does not belong to the habits, the ethics, the psychology of our globe. One would be inclined to say that the insect comes from another planet, more monstrous, more energetic, more insane, more atrocious, more infernal than our own. One would think that it was born of some comet that had lost its course and died demented in space.

Speaking of the intelligence of bees reminds me of a well-known woodsman and camp-fire man who recently extolled in print the intelligence of hornets. saving that they have the ability to differentiate friends from foes. "They know us and we talk to them and they are made to feel as welcome as any of our guests." "When a stranger visits the camp. they attract the attention of one they know who recognizes their signal by thought or gesture and leaves immediately, returning only when the stranger has departed." (The italics are mine.) He says the same hornets apparently come to them year after year, greeting them on their arrival, and, should they be accompained by strangers, they treat them with the same deference as "when they visit us after we have been in camp some time."

Did one ever hear before of such well-bred and well-mannered bees? What would Maeterlinck say to all that? Its absurdity becomes apparent when we remember that hornets live but a single season, that none of them lives over the winter, save the queen, and that she never leaves the nest in summer after she has got her family of workers around her.

III. ODD OR EVEN

ONE of our seven wise men once said to me, "Have you observed that in the inorganic world things go

by even numbers, and in the organic world by odd?" I immediately went down to the edge of a bushy and swampy meadow below our camp and brought him a four-petaled flower of galium, and a plant-stalk with four leaves in a whorl. In another locality I might have brought him dwarf cornel, or the houstonia, or the evening-primrose. Yet even numbers are certainly more suggestive of mechanics than of life, while odd numbers seem to go more with the freedom and irregularity of

growing things.

One may make pretty positive assertions about non-living things. Crystals, so far as I know, are all even-sided, some are six and some eight-sided; snowflakes are of an infinite variety of pattern, but the number six rules them. In the world of living things we cannot be so sure of ourselves. Life introduces something indeterminate and incommensurable. It makes use of both odd and even, though undoubtedly odd numbers generally prevail. Leaves that are in lobes usually have three or five lobes. But the stems of the mints are four-square. and the cells of the honey bee are six-sided. We have five fingers and five toes, though only four limbs. Locomotion is mechanical and even numbers serve better than odd. Hence the six-legged insects. In the inorganic world things attain a stable equilibrium, but in the living world the equilibrium is never stable. Things are not stereo-

typed, hence the danger of dogmatizing about living things. Growing Nature will not be driven into a corner.

Well may Emerson ask-

Why Nature loves the number five, And why the star form she repeats?

The number five rules in all the largest floral families, as in the crowfoot family, the rose family (which embraces all our fruit trees), the geranium family, the flax family, the campanula family, the convolvulus family, the nightshade family. Then there is a large number of flowers the parts of which go in threes, one of the best known of which is the trillium. In animal life the starfish is the only form I recall based on the number five.

IV. WHY AND HOW

ONE may always expect in living nature variations and modifications. It is useless to ask why. Nature is silent when interrogated in this way. Ask her how, and you get some results. If we ask, for instance, why the sting of the honey bee is barbed, and those of the hornet and wasp and bumble-bee, and of other wild bees, are smooth like a needle, so that they can sting and sting again, and live to sting another day, while the honey bee stings once at the cost of its life; or why certain species of fish can fly; or why one kind of eel has

a powerful electric battery; or why the porcupine has an armor of quills while his brother rodent the woodchuck has only fur and hair, and so on—we make no addition to our knowledge.

But if we ask, for instance, how so timid and defenseless an animal as the rabbit manages to survive and multiply, we extend our knowledge of natural history. The rabbit prospers by reason of its wakefulness—by never closing its eyes—and by its speed; also by making its home where it can command all approaches, and so flee in any direction. Or if we ask how our ruffed grouse survives and prospers in a climate where its cousin the quail perishes, we learn that it eats the buds of certain trees, while the quail is a ground-feeder and is often cut off by a deep fall of snow.

If we ask why the chipmunk hibernates, we get no answer; but if we ask how he does it, we find out that he stores up food in his den, hence must take a lunch between his naps. The woodchuck hibernates, also, but he stores up fuel in the shape of fat in his own body. The porcupine is above ground and active all winter. He survives by gnawing the bark of certain trees, probably the hemlock. We have two species of native mice that look much alike, the white-footed mouse and the jumping, or kangaroo, mouse. The white-foot is active the season through, over and under the snow; the jumper hibernates all winter, and apparently

accomplishes the feat by the power he has of barely keeping the spark of life burning. His fires are banked, so to speak; his temperature is very low, and he breathes only at long intervals.

If, then, we ask with Emerson, "why Nature loves the number five," and "why the star form she repeats," we shall be put to it for an answer. We can only say that with living things odd numbers are more likely to prevail, and with non-living, even numbers.

Some seeds have wings and some have not. To ask why, is a blind question, but if we ask *how* the wingless seeds get sown, we may add to our knowledge.

In our own practical lives, in which experimentation plays such a part, we are often compelled to ask why this result and not that, why this thing behaves this way and that thing that way. We are looking for reasons or causes. The farmer asks why his planting in this field was a failure, while it was a success in the next field, and so on. An analysis of his soil or of his fertilizer and culture will give him the answer.

V. AN INSOLUBLE PROBLEM

That Darwin was a great natural philosopher and a good and wise man admits of no question, but to us, at this distance, it seems strange enough that he should have thought that he had hit upon the

key to the origin of species in the slow and insensible changes which he fancied species underwent during the course of the geologic ages, and should thus have used the phrase as the title of his book. Had he called his work the "Variability of Species," or the "Modification of Species," it would not have been such a misnomer. Sudden mutations give us new varieties, but not new species. In fact, of the origin of species we know absolutely nothing, no more than we do about the origin of life itself.

Of the development of species we know some of the factors that play a part, as the influence of environment, the struggle for existence, and the competitions of life. But do we not have to assume an inherent tendency to development, an original impulse as the key to evolution? Accidental conditions and circumstances modify, but do not originate species. The fortuitous plays a part in retarding or hastening a species, and in its extinction, but not in its origin. The record of the rocks reveals to us the relation of species, and their succession in geologic time, but gives no hint of their origin.

Agassiz believed that every species of animal and plant was the result of a direct and separate act of the Creator. But the naturalist sees the creative energy immanent in matter. Does not one have to believe in something like this to account for the world as we see it? And to account for us also?—a universal mind or intelligence

Whose dwelling is the light of setting suns, And the round ocean and the living air, And the blue sky, and in the mind of man.

Agassiz was too direct and literal; he referred to the Infinite Mystery in terms of our own wills and acts. When we think of a Creator and the thing created as two, we are in trouble at once. They are one, as fire and light are one, as soul and body are one. Darwin said he could not look upon the world as the result of chance, and yet his theory of the origin of species ushers us into a chance world. But when he said, speaking of the infinite variety of living forms about us, that they "have all been produced by laws acting around us," he spoke as a great philosopher. These laws are not fortuitous, or the result of the blind grouping of irrational forces.

VI. A LIVE WORLD

It was "the divine Kepler," as Professor Shaler calls him, who looked upon the earth as animated in the fashion of an animal. "To him this world is so endowed with activities that it is to be accounted alive." But his critics looked upon this fancy of Kepler's as proof of a disordered mind.

Now I read in a work of George Darwin's (son of the great naturalist) on the tides that the earth in many ways behaves more like a living organism

than like a rigid insensate sphere. Its surface throbs and palpitates and quivers and yields to pressure as only living organisms do. The tides can hardly be regarded as evidences of its breathing, as Kepler thought they could, but they are proof of how closely it is held in the clasp of the heavenly forces. It is like an apple on the vast sidereal tree. that has mellowed and ripened with age. Our moon is no doubt as dead as matter can be. It is hard to fancy its surface yielding to our tread as does that of the earth. Then we know that the absence of air and water on it is proof that it cannot be endowed with what we call life. George Darwin tells us that when we walk on the ground we warp and bend the surface very much as we might bend or dent the epidermis of a colossal pachyderm. He and his brother devised an instrument by which the slight fluctuations of the ground, as we move over it, could be measured. The instrument was so delicate that it revealed the difference of effect produced by the same pressure at seven feet and at six feet from the instrument! More than that, the instrument revealed the throbbing and agitations which the ground is undergoing at all times. They found that minute earthquakes, or microseisms, as the Italians call them, are occurring constantly.

Another instrument has been invented called the microphone, which translates this earth's move-

ments into sound—its tremors and agitations become audible. This microphone, when placed in a cave twenty feet below the surface, and carefully protected by means of a carpet from any accidental disturbance in its immediate vicinity, revealed what is called "natural telluric phenomena; such as roarings, explosions, occurring isolated or in volleys, and metallic or bell-like sounds." "The noises sometimes become intolerably loud," especially on one occasion in the middle of the night, half an hour before a sensible earthquake.

Our apparently impassive and slumbering old planet evidently has dreams we know little of.

From Professor Shaler's "Nature and Man in America" I get an impression which again deepens my feeling of something half human about our lucky planet, at least something progressive and unequal, like life itself. Shaler finds that organic development in the Northern Hemisphere is more advanced, by a whole geologic period, than in the Southern, with Europe at the head and Australia the greatest laggard. The animal life of Australia is much like that of Europe in the Jurassic period, while both Asia and Africa possess forms, such as elephants, and tigers, and lions, which abounded in Europe in Tertiary times. Hence the Northern Hemisphere is more like the head of the beast, and the Southern more like the viscera. The Northern races easily dominate

the Southern. The flowering of civilization is in the North. It is very certain that man originated north of the equator. I think that one need not expect that the achievements of man in Australia, or in South America, will rival the achievements of man nearer the north magnetic pole of the earth.

VII. DARWINISM AND THE WAR

That Darwinism was indirectly one of the causes of the World War seems to me quite obvious. Unwittingly the great and gentle naturalist has more to answer for than he ever dreamed of. His biological doctrine of the struggle for existence. natural selection, and the survival of the fittest, fairly intoxicated the Germans from the first. These theories fell in well with their militarism and their natural cruelty and greediness. Their philosophers took them up eagerly. Weissmann fairly made a god of natural selection, as did other German thinkers. And when they were ready for war, the Germans at once applied the law of the jungle to human affairs. The great law of evolution, the triumph of the strong, the supremacy of the fit, became the foundation of their political and national ideals. They looked for no higher proof of the divinity of this law, as applied to races and nations, than the fact that the organic world had reached its present stage of development through the operation of this law. Darwin

had given currency to these ideas. He had denied that there was any inherent tendency to development, affirming that we lived in a world of chance, and that power comes only to him who exerts power—half truths, all of them.

The Germans as a people have never been born again into the light of our higher civilization. They are morally blind and politically treacherous. Their biological condition is that of the lower orders, and the Darwinian law of progress came to them as an inspiration. Darwin's mind, in its absence of the higher vision, was akin to a German mind. In his plodding patience, his devotion to details, and in many other ways, his mind was German. But in his candor, his truthfulness, his humility, his simplicity, he was anything but German. Undoubtedly his teachings bore fruit of a political and semi-political character in the Teutonic mind. The Teutons incorporated the law of the jungle in their ethical code. Had not they the same right to expansion and to the usurpation of the territory and to the treasures of their neighbors that every weed in the fields and even the vermin of the soil and the air have? If they had the sanction of natural law, that was enough; they were quite oblivious to the fact that with man's moral nature had come in a new biological law which Darwin was not called upon to reckon with, but which has tremendous authority and survival

value—the law of right, justice, mercy, honor, love.

We do not look for the Golden Rule among swine and cattle, or among wolves and sharks; we look for it among men; we look for honor, for heroism, for self-sacrifice, among men. None of these things are involved in the Darwinian hypothesis. There is no such thing as right or wrong in the orders below man. These are purely human distinctions. It is not wrong for the wolf to eat the lamb, or the lamb to eat the grass, but an aggressive war is wrong to the depths of the farthest star. Germany's assault upon the peace and prosperity of the world was a crime against the very heavens.

Darwin occupied himself only with the natural evolution of organic forms, and not with the evolution of human communities. He treated man as an animal, and fitted him into the zoölogical scheme. He removed him from the realm of the miraculous into the plane of the natural. For all purposes of biological discussion, man is an animal, but that is not saying he is only an animal, and still under the law of animal evolution. The European man is supposed to have passed the stage of savagery, in which the only rule of right is the rule of might. To have made Darwinism an excuse for a war of aggression is to have debased a sound natural philosophy to a selfish and ignoble end.

Germany lifted the law to the human realm and staked her all upon it, and failed. The moral sense of the world—the sense of justice, of fair play—was against her, and inevitably she went down. Her leaders were morally blind. When the rest of the world talked of moral standards. the German leaders said, "We think you are fools." But these standards brought England into the war—the sacredness of treaties. They brought the United States in. We saw a common enemy in Germany, an enemy of mankind. We sent millions of men to France for an ideal-for justice and fair play. To see our standards of right and justice ignored and trampled upon in this way was intolerable. The thought of the world being swaved by Prussianism was unbearable. I said to myself from the first, "The Allies have got to win: there is no alternative." And what astonishes me is that certain prominent Englishmen, such as Lord Morley, and others, did not see it. Would they have sat still and watched Germany destroy France and plant herself upon the Channel and make ready to destroy England? The very framework of our moral civilization would have been destroyed. Darwin little dreamed to what his natural selection theory was to lead.

VIII. THE ROBIN

OF all our birds the robin has life in the fullest

measure, or best stands the Darwinian test of the fittest to survive. His versatility, adaptiveness, and fecundity are remarkable. While not an omnivorous feeder, he vet has a very wide range among fruits and insects. From cherries to currants and strawberries he ranges freely, while he is the only thrush that makes angle-worms one of his dietetic staples and looks upon a fat grub as a rare tidbit. Then his nesting-habits are the most diverse of all. Now he is a tree-builder in the fork of a trunk or on a horizontal branch. then a builder in vines or rosebushes around your porch, then on some coign of vantage about your house or barn, or under the shed, or under a bridge, or in the stone wall, or on the ground above a hedge. I have known him to go into a well and build there on a projecting stone. He even nests beyond the Arctic Circle, and it is said he never sings sweeter than when singing during those long Arctic days.

He brings off his first brood in May, and the second in June, and if a dry season does not seriously curtail his food-supply, a third one in September. He is a hustler in every sense of the word—a typical American in his enterprise and versatility. His voice is the first I hear in the morning, and the last at night. Little wonder that there are twenty robins to one bluebird, or wood thrush, or catbird. The song sparrow is

probably our next most successful bird, but she is far behind the robin. We could never have a plague of song sparrows or bluebirds, but since the robins are now protected in the South as well as in the North, we are exposed to the danger of a plague of robins. Since they may no longer have robin pot-pies in Mississippi, the time is near at hand when we may no longer have cherry-pies in New York or New England. Yet who does not cherish a deep love for the robin? He is a plebeian bird, but he adds a touch to life in the country that one would not like to miss.

The robin is neither a walker nor a hopper; he is doomed always to be a runner. Go slow he cannot; his engine is always "in high"—it starts "in high" and stops "in high."

IX. THE WEASEL

In wild life the race is not always to the swift, nor the battle to the strong. For instance, the weasel catches the rabbit and the red squirrel, both of which are much more fleet of foot than is he. The red squirrel can fairly fly through the tops of the trees, where the weasel would be entirely out of its element, and the rabbit can easily leave him behind, and yet the weasel captures and sucks the blood of both. Recently, when the ground was covered with our first snow, some men at work in a field near me heard a rabbit cry on the

slope below them. Their dog rushed down and found a weasel holding a rabbit, which it released on the approach of the dog and took to the cover of a near-by stone wall. The whole story was written there on the snow. The bloodsucker had pursued the rabbit, pulling out tufts of fur for many yards and then had pulled it down.

Two neighbors of mine were hunting in the woods when they came upon a weasel chasing a red squirrel around the trunk of a big oak; round and round they went in a fury of flight and pursuit. men stood and looked on. It soon became apparent that the weasel was going to get the squirrel, so they watched their chance and shot the bloodsucker. Why the squirrel did not take to the treetops, where the weasel probably would not have followed him, and thus make his escape—who knows? One of my neighbors, however, says he has seen where a weasel went up a tree and took a gray squirrel out of its nest and dropped it on the snow, then dragged it to cover and left it dead. The weasel seems to inspire such terror in its victim that it becomes fairly paralyzed and falls an easy prey. Those cruel, blazing, beadlike eves, that gliding snakelike form, that fearless, fatelike pursuit and tenacity of purpose, all put a spell upon the pursued that soon renders it helpless. A weasel once pursued a hen to my very feet and seized it and would not let it go until I put my foot upon it

and gripped it by the back of the neck with my hand. Its methods are a kind of Schrecklichkeit in the animal world. It is the incarnation of the devil among our lesser animals.

X. MISINTERPRETING NATURE

We are bound to misinterpret Nature if we start with the assumption that her methods are at all like our methods. We pick out our favorites among plants and animals, those that best suit our purposes. If we want wool from the sheep, we select the best-fleeced animals to breed from. If we want mutton, we act accordingly. If we want cows for quantity of milk, irrespective of quality, we select with that end in view; if we want butterfat, we breed for that end, and so on. With our fruits and grains and vegetables we follow the same course. We go straight to our object with as little waste and delay as possible.

Not so with Nature. She is only solicitous of those qualities in her fruits and grains which best enable them to survive. In like manner she subordinates her wool and fur and milk to the same general purpose. Her one end is to increase and multiply. In a herd of wild cattle there will be no great milchers. In a band of mountain sheep there will be no prize fleeces. The wild fowl do not lay eggs for market.

Those powers and qualities are dominant in the

wild creatures that are necessary for the survival of the species—strength, speed, sharpness of eye and ear, keenness of scent; all wait upon their survival value.

Our hawks could not survive without wing-power or great speed, but the crow survives without this power, because he is an omnivorous feeder and can thrive where the hawk would starve, and also because no bird of prey wants him, and, more than that, because he is dependent upon nothing that requires speed to secure. He is cunning and suspicious for reasons that are not obvious. The fox in this country requires both speed and cunning, but in South America Darwin saw a fox so indifferent and unafraid that he walked up to it and killed it with his geologist's hammer. Has it no enemies in that country?

Nature's course is always a roundabout one. Our petty economies are no concern of hers. Man wants specific results at once. Nature works slowly to general results. Her army is drilled only in battle. Her tools grow sharper in the using. The strength of her species is the strength of the obstacles they overcome. We misinterpret Darwin when we assume that Nature selects as man selects. Nature selects solely upon the principle of power of survival. Man selects upon the principle of utility. He wants some particular good—a race-horse, a draft-horse—better quality or greater quantity of

this or that. Nature aims to fill the world with her progeny. Only power to win in the competition of life counts with her. As I have so often said, she plays one hand against the other. The stakes are hers whichever wins. Wheat and tares are all one to her. She pits one species of plant or animal against another-heads I win, tails you lose. Some plants spread both by seed and runners, this doubles their chances; they are kept in check because certain localities are unfavorable to them. I know a section of the country where a species of mint has completely usurped the pastures. It makes good bee pasturage, but poor cattle pasturage. Quack grass will run out other grass because it travels under ground in the root as well as above ground in the seed.

XI. NATURAL SCULPTURE

We may say that all the forms in the non-living world come by chance, or by the action of the undirected irrational physical forces, mechanical or mechanico-chemical. There are not two kinds of forces shaping the earth's surface, but the same forces are doing two kinds of work, piling up and pulling down—aggregating and accumulating, and separating and disintegrating.

It is to me an interesting fact that the striking and beautiful forms in inorganic nature are not as a rule the result of a building-up process, but of a

pulling-down or degradation process. A natural bridge, an obelisk, caves, canals, the profile in the rocks, the architectural and monumental rock forms, such as those in the Grand Cañon and in the Garden of the Gods, are all the result of erosion. Water and other aerial forces are the builders and sculptors, and the nature and structure of the material determine the form. It is as if these striking forms were inherent in the rocks, waiting for the erosive forces to liberate them. The stratified rocks out of which they are carved were not laid down in forms that appeal to us, but layer upon layer, like the leaves of a book; neither has the crumpling and deformation of the earth's crust piled them up and folded them in a manner artistic and suggestive. Yet behold what the invisible workmen have carved out of them in the Grand Cañon! It looks as though titanic architects and sculptors had been busy here for ages. But only little grains of sand and a vast multitude of little drops of water, active through geologic ages, were the agents that wrought this stupendous spectacle. If the river could have builded something equally grand and beautiful with the material it took out of this chasm! But it could not-poetry at one end of the series and dull prose at the other. The deposition took the form of broad, featureless, uninteresting plains-material for a new series of stratified rocks, out of which other future Grand

Cañons may be carved. Thus the gods of erosion are the artists, while the builders of the mountains are only ordinary workmen.

XI

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I. MAN A PART OF NATURE

This bit of nature which I call myself, and which I habitually think of as entirely apart from the nature by which I am surrounded, going its own way, crossing or defeating or using the forces of the nature external to it, is yet as strictly a part of the total energy we call nature as is each wave in the ocean, no matter how high it raises its crest, a part of the ocean. Our wills, our activities, go but a little way in separating us from the totality of things. Outside of the very limited sphere of what we call our spontaneous activities, we too are things and are shaped and ruled by forces that we know not of.

It is only in action, or in the act of living, that we view ourselves as distinct from nature. When we think, we see that we are a part of the world in which we live, as much so as the trees and the other animals are a part. Intellect unites what life separates. Our whole civilization is the separating of one thing from another and classifying and organizing them. We work ourselves away from rude Nature while we are absolutely dependent upon

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her for health and strength. We cease to be savages while we strive to retain the savage health and virility. We improve Nature while we make war upon her. We improve her for our own purposes. All the forces we use—wind, water, gravity, electricity—are still those of rude Nature. Is it not by gravity that the water rises to the top stories of our houses? Is it not by gravity that the aeroplane soars to the clouds? When the mammoth guns hurl a ton of iron twenty miles they pit the greater weight against the lesser. The lighter projectile goes, and the heavier gun stays. So the athlete hurls the hammer because he greatly outweighs it.

II. MARCUS AURELIUS ON DEATH

Marcus Aurelius speaks of death as "nothing else than a dissolution of the elements of which every human being is composed." May we say it is like a redistribution of the type after the page is printed? The type is unchanged, only the order of arrangement is broken up. In the death of the body the component elements—water, lime, iron, phosphorus, magnesia, and so on—remain the same, but their organization is changed. Is that all? Is this a true analogy? The meaning of the printed page, the idea embodied, is the main matter. Can this idea be said to exist independent of the type? Only in the mind that reads the page, and then not permanently. Then it is only an arrange-

ment of molecules of matter in the brain, which is certainly only temporary. On the printed page it is a certain combination of white and black that moves the cells of the brain through the eye to create the idea. So the conception in our minds of our neighbor or friend—his character, his personality—exists after he is dead, but when our own brain ceases to function, where is it then?

We rather resent being summed up in this way in terms of physics, or even of psychology. Can you reconstruct the flower or the fruit from its ashes? Physics and biochemistry and psychology describe all men in the same terms; our component parts are all the same; but character, personality, mentality—do not these escape your analysis? and are they not also real?

III. THE INTERPRETER OF NATURE

EMERSON quotes Bacon as saying that man is the minister and interpreter of Nature. But man has been very slow to see that he is a part of that same Nature of which he is the minister and interpreter. His interpretation is not complete until he has learned to interpret himself also. This he has done all unconsciously through his art, his literature, his religion, his philosophy. Painting interprets one phase of him, music another, poetry another, sculpture another, his civic orders another, his creeds and beliefs and superstitions another, so that at this

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day and age of the world he has been pretty well interpreted. But the final interpretation is as far off as ever, because the condition of man is not static, but dynamic. He is forever born anew into the world and experiences new wonder, new joy, new loves, new enthusiasms. Nature is infinite, and the soul of man is infinite, and the action and reaction between the two which gives us our culture and our civilization can never cease. When man thinks he is interpreting Nature, he is really interpreting himself-reading his own heart and mind through the forms and movements that surround him. In his art and his literature he bodies forth his own ideals; in his religion he gives the measure of his awe and reverence and his aspirations toward the perfect good; in his science he illustrates his capacity for logical order and for weighing evidence. There is no astronomy to the night prowler, there is no geology to the woodchuck or the ground mole, there is no biology to the dog or to the wolf, there is no botany to the cows and the sheep. All these sciences are creations of the mind of man; they are the order and the logic which he reads into Nature. Nature interprets man to himself. Her beauty, her sublimity, her harmony, her terror, are names which he gives to the emotions he experiences in her presence. The midnight skies sound the depths of his capacity for the emotion of grandeur and immensity, the summer

landscape reveals to him his susceptibility to beauty.

It is considered sound rhetoric to speak of the statue as existing in the block of marble before the sculptor touches it. How easy to fall into such false analogies! Can we say that the music existed in the flute or in the violin before the musician touches them? The statue in the form of an idea or a conception exists in the mind of the sculptor. and he fashions the marble accordingly. Does the book exist in the pot of printer's ink? Living things exist in the germ, the oak in the acorn, the chick in the egg, but from the world of dead matter there is no resurrection or evolution. Life alone puts a particular stamp upon it. We may say that the snowflake exists in the cloud vapor because of the laws of crystallization, but the house does not exist in a thousand of brick in the same sense. It exists in the mind of the builder.

The sculptor does not interpret the marble; he interprets his own soul through the medium of the marble—the picture is not in the painter's color tubes waiting to be developed as the flower is in the bud; it is in the artist's imagination. The apple and the peach and the wheat and the corn exist in the soil potentially; life working through the laws of physics and chemistry draws their materials out and builds up the perfect fruit. To decipher, to interpret, to translate, are terms that

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apply to human things, and not to universal nature. We do not interpret the stars when we form the constellations. The grouping of the stars in the heavens is accidental—the chair, the dipper, the harp, the huntsman, are our fabrications. Does Shelley interpret the skylark, or Wordsworth the cuckoo, or Bryant the bobolink, or Whitman the mockingbird and the thrush? Each interprets his own heart. Each poet's mind is the die or seal that gives the impression to this wax.

All the so-called laws of Nature are of our own creation. Out of an unfailing sequence of events we frame laws—the law of gravity, of chemical affinity, of magnetism, of electricity—and refer to them as if they had an objective reality, when they are only concepts in our own minds. Nature has no statute books and no legislators, though we habitually think of her processes under these symbols. Human laws can be annulled, but Nature's laws cannot. Her ways are irrevocable, though theology revokes or suspends them in its own behalf. It was Joshua's mind that stopped while he conquered his enemies, and not the sun.

The winds and the tides do not heed our prayers; fire and flood, famine and pestilence, are deaf to our appeals. One of the cardinal doctrines of Emerson was that all true prayers are self-answered—the spirit which the act of prayer begets in the suppliant is the answer. A heartfelt prayer for faith

or courage or humility is already answered in the attitude of soul that devoutly asks it. We know that the official prayers in the churches for victory to the armies in the field are of no avail—and how absurd to expect them to be—but who shall saythat the prayer of the soldier on the eve of battle may not steady his hand and clinch his courage? But the prayer for rain or for heat or cold, or for the stay of an epidemic, or for any material good, is as vain as to reach one's hands for the moon.

IV. ORIGINAL SOURCES

THE writers who go directly to life and Nature for their material are, in every age, few compared with the great number that go to the libraries and lecture-halls, and sustain only a second-hand relation to the primary sources of inspiration. They cannot go directly to the fountain-head, but depend upon those who can and do. They are like those forms of vegetation, the mushrooms, that have no chlorophyll, and hence cannot get their food from the primary sources, the carbonic acid in the air; they must draw it from the remains of plants that did get it at first-hand from Nature. Chlorophyll is the miracle-worker of the vegetable world; it makes the solar power available for life. It is in direct and original relation to the sun. It also makes animal life possible. The plant can go to inorganic nature and through its chlorophyll can

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draw the sustenance from it. We must go to the plant, or to the animal that went to the plant, for our sustenance.

The secondary men go to books and creeds and institutions for their religion, but the original men, having the divine chlorophyll, go to Nature herself. The stars in their courses teach them. The earth inspires them.

V. THE COSMIC HARMONY

THE order and the harmony of the Cosmos is not like that which man produces or aims to produce in his work—the order and harmony that will give him the best and the quickest results; but it is an astronomic order and harmony which flows inevitably from the circular movements and circular forms to which the Cosmos tends. Revolution and evolution are the two feet upon which creation goes. All natural forms strive for the spherical. waves on the beach curve and roll and make the pebbles round. From the drops of rain and dew to the mighty celestial orbs one law prevails. Nature works to no special ends; she works to all ends; and her harmony results from her universality. The comets are apparently celestial outlaws, but they all have their periodic movements, and make their rounds on time. Collisions in the abysses of space. which undoubtedly take place, look like disharmonies and failures of order, as they undoubtedly

are. What else can we call them? When a new star suddenly appears in the heavens, or an old one blazes up, and from a star of the tenth magnitude becomes one of the first, and then slowly grows dim again, there has been a celestial catastrophe, an astronomic accident on a cosmic scale. Had such things occurred frequently enough, would not the whole solar system have been finally wrecked, or could it even have begun? For the disharmonies in Nature we must look to the world of the living things, but even here the defeats and failures are the exception—else there would be no living world. Organic evolution reaches its goal despite the delays and suffering and its devious course. The inland stream finds its way to the sea at last. though its course double and redouble upon itself scores of times, and it travels ten miles to advance one. A drought that destroys animal and vegetable life, or a flood that sweeps it away, or a thunderbolt that shatters a living tree, are all disharmonies of Nature. In fact, one may say that disease, pestilence, famine, tornadoes, wars, and all forms of what we call evil are disharmonies, because their tendency is to defeat the orderly development of life.

The disharmonies in Nature in both the living and the non-living worlds tend to correct themselves. When Nature cannot make both ends meet, she diminishes her girth. If there is not food enough

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for her creatures, she lessens the number of mouths to be fed. A surplus of food, on the other hand, tends to multiply the mouths.

Man often introduces an element of disorder into Nature. His work in deforesting the land brings on floods and the opposite conditions of drought. He destroys the natural checks and compensations.

VI. COSMIC RHYTHMS

THE swells that beat upon the shores of the ocean are not merely the result of a local agitation of the waters. The pulse of the earth is in them. The pulse of the sun and the moon is in them. They are more cosmic than terrestrial. The earth wears her seas like a loose garment which the sun and moon constantly pluck at and shift from side to side. Only the ocean feels the tidal impulse, the heavenly influences. The great inland bodies of water are unresponsive to them—they are too small for the meshes of the solar and lunar net. Is it not equally true that only great souls are moved by the great fundamental questions of life? What a puzzle the tides must have been to early man! What proof they afford of the cosmic forces that play upon us at all times and hold us in their net! Without the proof they afford, we should not know how we are tied to the solar system. The lazy, reluctant waters-how they follow the sun and moon, "with fluid step," as Whitman says, "round

the world"! The land feels the pull also and would follow if it could. But the mobile clouds go their way, and the aerial ocean makes no sign. The pull of the sun and the moon is upon you and me also, but we are all unconscious of it. We are bodies too slight to affect the beam of the huge scale.

VII. THE BEGINNINGS OF LIFE

It is remarkable, I think, that Professor Osborn, in his "Origin and Evolution of Life," makes no account of the micro-organisms or unicellular lives that are older than the continents, older than the Cambrian rocks, and that have survived unchanged even to our times. I saw in the Grand Cañon of the Colorado where they were laid down horizontally on the old Azoic or original rocks, as if by the hand of a mason building the foundation of a superstructure. All the vast series of limestone rocks are made up from the skeletons of minute living bodies. Other strata of rocks are made up of the skeletons of diatoms. Some of our polishing powders are made from these rocks. Formed of pure silex, these rocks are made up of the skeletons of organisms of many exquisite forms, Foraminiferæ. The Pyramids are said to be built of rocks formed by these organisms. "No single group of the animal kingdom," says Mr. W. B. Carpenter, "has contributed, or is at present contributing, so largely as has the Foraminiferæ to the formation

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of the earth's crust." In the face of these facts. how unsatisfactory seem Professor Osborn's statements that life probably originated on the continents, either in the moist crevices of rocks or soils. in the fresh waters of continental pools, or in the slightly saline waters of the "bordering primordial seas." This last suggestion comes nearer the mark. There is no variation during geologic time of these primordial living organisms. All conceivable changes of environment have passed over them, but they change not. Bacteria struggle together, one form devouring another form. Unicellular life long precedes multicellular. Biologists usually begin with the latter; the former are fixed; with the latter begins development or evolution, and the peopling of the world with myriads of animal forms.

VIII. SPENDTHRIFT NATURE

EMERSON says, "Nature is a spendthrift, but takes the shortest way to her ends." She is like ourselves, she is ourselves written large—written in animal, in tree, in fruit, in flower. She is lavish of that of which she has the most. She is lavish of her leaves, but less so of her flowers, still less of her fruit, and less yet of her germinal parts. The production of seed is a costly process to the plant. Many trees yield fruit only every other year.

I say that Nature is a spendthrift only of what

she has the most. Behold the clouds of pollen from the blooming pines and from the grasses in the meadow. She is less parsimonious with her winged seeds, such as of the maple and the elm, than with her heavy nuts-butternuts, hickory-nuts, acorns, beechnuts, and so on. All these depend upon the agency of the birds and squirrels to scatter them. She offers them the wage of the sweet kernel, and knows that they will scatter more than they eat. To all creatures that will sow the seeds of her berries she offers the delectable pulp: "Do this chore for me, and you will find the service its own reward." All the wild fruits of the fields and woods hold seeds that must be distributed by animal agency. Even the fiery arum or Indian turnip, tempts some birds to feast upon its red berries, and thus scatter the undigested seeds. The mice and the squirrels doubtless give them a wide berth, but in the crop of the fowl the seeds have the sting taken out of them. You cannot poison a hen with strychnine.

We ourselves are covetous of those things of which we have but few, extravagant with those of which we have an abundance. When the Western farmer burns corn in place of coal, be assured he sees his own account in it. We husband our white pine, and are free with our hemlock; we are stingy with our hickory, and open-handed with our beech and chestnut.

XII

NEW GLEANINGS IN FIELD AND WOOD

As I saunter through the fields and woods I discover new acts in Nature's drama. They are, however, the old acts, played again and again, which have hitherto escaped my notice, so absorbed have I been in the rise and fall of the curtain, and in the entrances and exits of the more familiar players. I count myself fortunate if, during each season, I detect a few new acts on the vast stage; and as long as I live I expect to cogitate and speculate on the old acts, and keep up my interest in the whole performance.

I. SUNRISE

THE most impressive moment of the day here in the Catskills is the rising of the sun. From my cot on the porch I see the first flash of his coming. Before that I see his rays glint here and there through the forest trees which give a mane to the mountain crest. The dawn comes very gently. I am usually watching for it. As I gaze I gradually become conscious of a faint luminousness in the eastern sky. This slowly increases and changes to a deep saffron, and then in eight or ten minutes that fades into a light bluish tinge—the gold turns

to silver. After some minutes the sky, just at the point where the sun is to appear, begins to glow again, as if the silver were getting warm; a minute or two more and the brow of the great god is above the horizon line. His mere brow, as I try to fix my eve upon it, fairly smites me blind. The brow is magnified by the eye into the whole face. One realizes in these few seconds how rapidly the old earth turns on its axis. You witness the miracle of the transition of the dawn into day. The day is born in a twinkling. Is it Browning who uses the word "boil" to describe this moment?-"Day boils at last." Gilder, I think, speaks of it as a scimitar flashing on the brim of the world. At any rate, I watch for it each morning as if I were seeing it for the first time. It is the critical moment of the day. You actually see the earth turning. Later in the day one does not note in the same way the sun climbing the heavens. The setting sun does not impress one, because it is usually enveloped in vapors. His day's work is done and he goes to his rest veiled and subdued. He is new in the morning and old at his going down. His gilding of the clouds at sunset is a token of a fair day on the morrow; his touching them with fire in the morning is a token of wind or storm. So much we make of these things, yet the sun knows them not. They are local and only earth phenomena, yet the benefaction of the sun is as if it shone for us alone. It

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is as great as if this were the case, and yet the fraction of his light and heat that actually falls upon this mote of a world adrift in sidereal space is so infinitely small that it could hardly be computed by numbers. In our religion we appropriate God to ourselves in the same way, but he knows us not in this private and particular way, though we are all sharers in the Universal Beneficence.

II. NATURE'S METHODS

NATURE baffles us by methods so unlike our own. Man improves upon his inventions; he makes them better and better and discards the old. The first airplane flew a few miles with its pilot: now the airplane flies hundreds of miles and carries tons of weight. Nature has progressed steadily from lower to higher forms, but she keeps all her lower forms; her first rude sketches are as precious to her as the perfected models. There is no vacancy at the bottom of her series, as there is in the case of man. I am aware that we falsify her methods in contrasting them with those of man in any respect. She has no method in our sense of the term. She is action, and not thought, growth and not construction, is internal and not external. To try to explain her in terms of our own methods is like trying to describe the sphere in terms of angles and right lines.

The origin of species is as dark a problem as is

the origin of the secondary rocks. What factors or forces entered into the production of the vast variety of stratified rocks, differing as widely from the original Adam rock, the granite, as the races of men differ from one another? There is just as much room for natural selection to work in one case as in the other. We find where two kinds of rock touch, one overlying the other, and absolute difference in texture and color, and no union between them. How account for their juxtaposition? Rock begat rock, undoubtedly, and the aerial forces played the chief part, but the origin of each kind is hidden in the abyss of geologic time, as is that of the animal species.

The position of the camel with reference to the giraffe in Africa is analogous to that, say, of the Catskill conglomerate to the laminated sandstone that lies beneath it. They are kindred; one graduates into the other. Whence the long neck and high withers of the giraffe? The need of high feeding, say the selectionists, but other browsing animals must have felt the same need. Our moose is strictly a browsing animal, and, while his neck and shoulders are high, and his lips long, they do not approach those of the giraffe. The ostrich has a long neck also, but it is a low feeder, mainly from the ground.

We can only account for man and other higher forms of life surviving in the highway of the physi-

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cal forces on the ground that the wheels and tramp ing hoofs missed them much oftener than they hit them. They learned instinctively to avoid these destructive forces. Animal life was developed amid these dangers. The physical forces go their way as indifferent to life as is your automobile to the worms and beetles in the road. Pain and suffering are nothing to the Eternal; the only thing that concerns It is the survival of the fit, no matter how many fall or are crushed by the way; to It men are as cheap as fleas; and they have slaughtered one another in Europe of late without help or hindrance from the Eternal, as do the tribes of hostile ants. The wars of the microbes and the wars of men are all of a piece in the total scheme of things. The survivors owe their power of survival to the forces that sought their destruction; they are strong by what they have overcome; they graduated in that school. Hence it is that we can say that evil is for us as much as it is against us. Pain and suffering are guardian angels; they teach us what to shun.

How puzzling and contradictory Nature often is! How impossible, for instance, to reduce her use of horns to a single rule! In the deer and elk tribe the antlers seem purely secondary sexual characteristics. They are dropped as the season wanes; but the African antelopes do not drop their horns, and yet they are singularly ornamental. But with

our common sheep the horns are sexual manifestations; yet the old ram does not shed his horns. Nature will not be consistent.

Back in geologic time we had a ruminant with four horns, two on the nose and two on the crown, and they were real, permanent, bony growths.

What a powerful right fore limb Nature has given to the shovel-footed mole, while the chipmunk, who also burrows in the ground, has no special tool to aid him in building his mound of earth; he is compelled to use his soft, tender little nose as a pusher. When the soil which his feet have loosened has accumulated at the entrance to his hole, he shoves it back with his nose.

Even to some of her thistles Nature is partial. The Canada thistle sows its seeds upon the wind like the common native thistle; then in addition it sends a big root underground parallel with its surface, and just beyond the reach of the plough, which sends up shoots every six or seven inches, so that, like some other noxious weeds, it carries on its conquests like a powerful besieging army, both below ground and above.

A bachelor of laws in Michigan writes me in a rather peremptory manner, demanding an answer by return mail as to why robins are evenly distributed over the country instead of collected in large numbers in one locality; and if they breed in the South; and he insists that my answer be

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explicit, and not the mere statement "that it is natural law." I wonder that he did not put a special-delivery stamp on his letter. He is probably wondering why I am so dilatory in answering.

There seems to be an inherent tendency in nearly all living things to scatter, to seek new fields. They are obeying the first command—to increase and multiply. Then it is also a question of food, which is limited in every locality. Robins do not breed in flocks, but in pairs. Every gas is a vacuum to every other gas; and every locality is a vacuum to the different species of birds that breed there. The seed-eaters, the fruit-eaters, the insect-eaters, and the omnivorous feeders, like the robin—in other words, the sparrows, the flycatchers, the warblers—may and do all live together in harmony in the same narrow area.

The struggle of which we have heard so much since Darwin's time is mainly a natural sifting and distributing process, such as that going on all about us by the winds and the waters. The seeds carried by the winds do not thrive unless they chance to fall on suitable ground. All may be "fit" to survive and yet fail unless they are also lucky. What so frail as a spider's web, and yet how the spiders thrive! Nature gives the weak many advantages.

There is a slow, bloodless struggle of one species with another—the fleet with the slow, the cunning

with the stupid, the sharp-eved and sharp-eared with the dull of eve and ear, the keen of scent with the blunt of scent—which we call natural competition; but the slow, the stupid, the dull-eyed, dull-eared, and dull-scented find their place and thrive for all that. They are dull and slow because they do not need to be otherwise: the conditions of their lives do not require speed and sharpness. The porcupine has its barbed quills, the skunk its pungent secretion. All parts of nature dovetail together. The deer and the antelope kind have speed and sharp senses because their enemies have speed and sharp senses. The small birds are keen-eved and watchful because the hawks are so, too. The red squirrel dominates the gray squirrel, which is above him in size and strength, and the chipmunk below him, but he does not exterminate either. The chipmunk burrows in the ground where the red cannot follow him, and he lays up a store of nuts and seeds which the red does not. The weasel easily dominates the rat, but the rat prospers in spite of cats and traps and weasels.

The sifting of species is done largely by environment, the wet, the cold, the heat—the fittest, or those best adapted to their environment, survive. For some obscure reason they have a fuller measure of life than those who fall by the way.

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III. HEADS AND TAILS

I have heard a story of a young artist who, after painting a picture of a horse facing a storm, was not satisfied with it, and, feeling that something was wrong, asked Landseer to look at it. Instantly the great artist said to him, "Turn the horse around."

The cow turns her head to the storm, the horse turns his tail. Why this difference? Because each adopts the plan best suited to its needs and its anatomy. How much better suited is the broad. square head of the cow, with its heavy coating of hair and its ridge of bone that supports its horns, to face the storm than is the smooth, more nervous and sensitive head of the horse! What a contrast between their noses and their mode of grazing! The cow has no upper front teeth; she reaps the grass with the scythe of her tongue, while the horse bites it off and loves to bite the turf with it. The lip of the horse is mobile and sensitive. Then the bovine animals fight with their heads, and the equine with their heels. The horse is a hard and high kicker, the cow a feeble one in comparison. The horse will kick with both hind feet, the cow with only one. In fact, there is not much "kick" in her kind. The tail of the cow is of less protection to her than is that of the horse to him. Her great need of it is to fight flies, and, if attacked in the rear, it furnishes a good hold for her enemies. Then

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her bony stern, with its ridges and depressions and thin flanks, is less fit in any encounter with storm or with beast than is her head. On the other hand, the round, smooth, solid buttocks of the horse, with their huge masses of muscles, his smooth flanks, and his tail—an apron of long, straight, strong hair—are well designed to resist storm and cold. What animal is it in Job whose neck is clothed with thunder? With the horse, it is the hips that are so clothed. His tremendous drive is in his hips.

IV. AN UNSAVORY SUBJECT

If a rose by any other name would smell as sweet, I suppose the breath of the obscene fungus by any other name would smell as rank. The defensive weapon of our black-and-white wood pussy would probably not be less offensive if we called him by that name alone, instead of the common one by which he is universally known.

While in southern California last winter I heard of one that took up his abode in the basement of a house that stood on the side of a hill in the edge of the country. It was in a sort of lumber-room where all sorts of odds and ends had accumulated. On some shelves was a box of miscellaneous articles, such as lids to tin cans, bed castors, old toothbrushes, bits of broken crockery, pieces of wire, chips of wood, and the dried foot and leg of a hen. One morning, on opening the door of the basement,

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the mistress of the house was surprised to see the whole collection of trash laid out in a line across the floor. The articles were placed with some degree of regularity covering a space about fifteen inches wide and ten feet in length. There were sixty-one articles in the row.

Having such an unsavory creature in the basement of one's house is rather ticklish business; not so perilous as a stick of dynamite, yet fraught with unpleasant possibilities. They cleared away the exhibit and left the door open, hoping their uninvited guest would take his departure. But he did not. A few nights later he began another collection, finding a lot of new material—among other things a box with old atomizer bulbs, four of which bulbs he arranged here and there, in the row—a motley array.

What is his object? I confess I do not know. No one has seen him do it, as he works at night, but there is little doubt that it is his work. The Western skunk is a small creature, not much bigger than a gray squirrel. He can hide behind a dustpan.

I wish some one would tell me why this night prowler so often seems to spray the midnight air with his essence which leaves no trace by day. He never taints his own fur with it. In the wilds our

¹Later investigations point to this having been the work of a wood rat instead of a skunk.—C. B.

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Eastern species is as free from odor as a squirrel or a woodchuck. Kill or disturb one by day or night in his haunts, and he leaves an odor on the ground that lasts for months. While at a friend's house in the Catskills last August a wood pussy came up behind the kitchen and dug in the garbage-heap. We saw him from the window in the early evening. and we smelled him. For some reason he betraved his presence. Late that night I was awakened by a wave of his pungent odor; it fairly made my nose smart, yet in the morning no odor could be detected anywhere about the place. Of course the smell is much more pronounced in the damp night air than by day, yet this does not seem an adequate explanation. Does he signal at night to his fellows by his odor? He has no voice, so far as I know. I have never heard him make a vocal sound. When caught in a trap, or besieged by dogs in a stone wall, he manifests his displeasure by stamping his feet. He is the one American who does not hurry through life. I have no proof that he ever moves faster than a walk, or that by any sign, he ever experiences the feeling of fear, so common to nearly all our smaller animals. His track upon the snow is that of a creature at peace with all the world.

V. CHANCE IN ANIMAL LIFE

CHANCE plays a much larger part in the lives of

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some animals than of others. The frog and the toad lay hundreds of eggs, the fishes spawn thousands, but most birds lay only five or six eggs.

A spendthrift with one hand, Nature is often a miser with the other. She lets loose an army of worms upon the forests, and then sends an ichneumon-fly to check them. She wastes no perfume or color upon the flowers which depend upon the wind to scatter their pollen. Cross-fertilization is dear to her, and she invents many ingenious ways to bring it about, as in certain orchids. She will rob the bones of the fowl of their lime to perfect the shell of the egg. She wastes no wit or cunning on the porcupine or on the skunk, because she has already endowed each of them with a perfect means of defense.

Two things Nature is not chary of—fear and pain. She heaps the measure here because fear puts her creatures on the safe side; it saves them from many real dangers. What dangers have lurked for man and for most wild things in the dark! How silly seems the fear of the horse! a fluttering piece of paper may throw him in a panic. Pain, too, safeguards us; it shields us against real dangers. The pains of childbirth are probably no check upon offspring, because the ecstasy of procreation, especially on the part of the male, overcomes all other considerations.

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VI. MOSQUITOES AND FLEAS

Mosquitoes for the North and mainly fleas and ticks for the South — this seems to be Nature's decree, at least in this country. The mosquitoes of the Far North pounce upon one suddenly and ferociously, while our Jersey mosquitoes hesitate and parley and make exasperating feints and passes. On the tundra of Alaska, if I stopped for a moment a swarm of these insects rose out of the grass as if they had been waiting for me all the years (as they had) and were so hungry that they could not stand upon the order of their proceeding, but came headlong.

In Jamaica the dogs were persecuted almost to death by the fleas. They were the most sorry, forlorn, and emaciated dogs I ever saw. Life was evidently a burden to them. I remember that Lewis and Clark, in their journey across the continent, were greatly pestered by fleas. I have found that our woodchucks, when they "hole up" in the fall, are full of fleas.

VII. THE CHANGE OF CLIMATE IN SOUTHERN CALI-FORNIA

I HAVE just been reading, for the third time, Dana's "Two Years Before the Mast," my sojourn near San Diego for a few months, where so many of the scenes and events he describes took place, having given me a renewed interest in the book.

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It is very evident that the climate of southern California has greatly changed since Dana was here in the trading ships Pilgrim and Alert, in 1832 and 1833. The change has been from wet to dry. At that time his ship collected, and others engaged in the same trade collected, hundreds of thousands of hides and great quantities of tallow, all from cattle grown by the missions between San Diego and Santa Barbara. This fact implies good pasturage. The cattle grazed on the hills and plains that are now, during a large part of the year, as dry as a bone. At present cattle left to their own devices on this coast would soon starve to death.

Dana describes violent storms of wind and rain. mainly from the southeast, which the ship, anchored a few miles off the coast, or cruising up and down, experienced at all times of year—one or more storms each week, often lasting for days. December he describes it as raining every hour for the whole month. The dread of the southeasters was ever present with the sailors. One of these, lasting three days, which came out of a cloudless sky, blew the sails to tatters. Nowadays a southeast storm of half a day is, according to my experience, an uncommon occurrence. To-day scarcely a drop of rain falls here from April till November, yet Dana describes many heavy rains in August. At present, in some of the interior valleys, where they grow alfalfa by means of irrigation, I see

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herds of well-kept dairy cows. In the season of rains the grass springs up and for a time cattle do well, but during the long dry season there is no pasturage save dry pasturage.

Although winter is supposed to be the rainy season here, I have been here during three seasons and have so far seen only light rains. To-day (December 16th) the earth is like powder as deep down as you care to dig. Yesterday I saw a man dragging in grain, and a great cloud of dust streamed out behind him. Ten or more years ago there was a very heavy rainfall in this locality that inundated large sections of the country and destroyed much property, the dry San Diego River getting out of bounds and carrying away bridges and floating houses on its banks. But it has been as dry as a highway ever since. It is clear that when the big rains do come they are more sporadic and uncertain than formerly.

VIII. ALL-SEEING NATURE

SITTING by a flat rock one summer morning, on my home acres in the Catskills, I noticed that the wild strawberry-vines sent out their runners over the rock, the surface of which is on a level with the turf, just as over the ground. Of course they could not take root, but they went through all the motions of taking root; the little clusters of leaves developed at intervals, the rootlets showed their points or stood at "attention," and the runners

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pushed out two or three feet over the barren surface and then seemed to hesitate like a traveler in the desert whose strength begins to fail. The first knot, or, one might say, the first encampment, was about one foot from the last one upon the turf, the next one about eight inches farther in; then the distance dropped to six inches, then to four. I think the runner finally gave it up and stopped reaching out. Each group of leaves apparently draws its main sustenance from the one next behind it, and when this one fails to reach the soil it loses heart and can give little succor to the next in front. The result is that the stools become smaller and smaller, and the distances between them less and less, down the whole line.

Nature's methods are seen in the little as well as in the big, and these little purple runners of the vine pushing out in all directions show the all-round-the-circle efforts of Nature as clearly as do the revolving orbs in sidereal space. Her living impulses go out in all directions. She scatters her seeds upon the barren as well as upon fertile spots. She sends rains and dews upon the sea as well as upon the land. She knows not our parsimony nor our prudence. We say she is blind, but without eyes she is all-seeing; only her creatures who live to particular ends, and are limited to particular spheres, have need of eyes. Nature has all time and all space and all ends. Delays and failure she

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knows not. If the runners of her strawberries do not reach their goal, the trouble corrects itself; they finally stop searching for it in that direction, and the impulse of the plant goes out stronger and fuller on other sides.

If the rains were especially designed to replenish our springs and supply our growing crops, the clouds might reasonably be expected to limit their benefactions, as do our sprinkling carts; but the rains are older than are we and our crops, and it is we who must adjust ourselves to them, not they to us.

The All-Sceing, then, has no need of our specialized vision. Does the blood need eyes to find its way to the heart and lungs? Does the wind need eyes to find the fertile spots upon which to drop its winged seeds? It drops them upon all spots, and each kind in due time finds its proper habitat, the highly specialized, such as those of the marsh plants, hitting their marks as surely as do others.

Our two eyes serve us well because our footsteps are numbered and must go in a particular direction, but the goal of all-seeing Nature is everywhere, and she arrives before she starts. She has no plan and no method, and she is not governed.

These conceptions express too little, not too much. Nature's movements are circular; her definite ends are enclosed in universal ends. The rains fall because the vapors rise. The rain is no

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more an end than is the rising vapor. Each is a part of the great circuit of beneficent and malevolent forces upon which our life (and all life) depends, upon which the making of the soil of the earth and the shaping of the landscape depend: all vegetable and animal life, all the bloom and perfume of the world, all the glory of cloud and sky, all the hazards of flood and storm, all the terror of torrents and inundations, are in this circuit of the waters from the sea to the sky, and back again through the rivers to the sea. In our geologic time there is, in this circuit of the waters, more that favors life than hinders it, else, as I so often sav. we should not be here. The enormous destruction of human life, of all life, which has taken place and will continue to take place, in this beneficent circuit, is only an incident in the history of the globe: the physical forces are neither for nor against it; they are neutral; life to be here at all has to run these risks; has to run the gantlet of these forces, and to get many a lash and gash in the running. Against the suffering and death incident thereto there is no insurance save in the wit of man himself. All this wit has been developed and sharpened by much waste and suffering. We learn to deal with difficulties through the discipline of the difficulties themselves. If man were finally to learn to control the rains and the floods, it would be through the experience which they themselves bring him.

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The demons that destroy him are on his side when he strikes with the strength which they give him. Gravity, which so often crushes and overthrows him, is yet the source of all his might. The fire that consumes his towns and cities is yet the same fire that warms him and drives his engines across the continent.

There is no god that pities us or weeps over our sufferings, save the god in our own breasts. We have life on heroic terms. Nature does not baby us nor withhold from us the bitter cup. We take our chances with all other forms of life. Our special good fortune is that we are capable of a higher development, capable of profiting to a greater extent by experience, than are the lower forms of life. And here is the mystery that has no solution: we came out of the burning nebulæ just as our horse and dog, but why we are men and they are still horse and dog we owe to some Power, or, shall I say, to the chance working of a multitude of powers, that are beyond our ken. That some Being willed it, designed it, no; yet it was in some way provided for in the constitution of the world.

THE END



But who is he with modest looks
And clad in homely russet brown?
He murmurs near the running brooks
A music sweeter than their own.

He is retired as noontide dew, Or fountain in a noon-day grove; And you must love him, ere to you He will seem worthy of your love.

The outward shows of sky and earth, Of hill and valley, he has viewed; And impulses of deeper birth Have come to him in solitude.

In common things that round us lie
Some random truths he can impart —
The harvest of a quiet eye
That broods and sleeps on his own heart.
WORDSWORTH

PREFACE

Most of the papers garnered here were written after fourscore years — after the heat and urge of the day — and are the fruit of a long life of observation and meditation.

The author's abiding interest in Emerson is shown in his close and eager study of the Journals during these later years. He hungered for everything that concerned the Concord Sage, who had been one of the most potent influences in his life. Although he could discern flies in the Emersonian amber, he could not brook slight or indifference toward Emerson in the vouth of to-day. Whatever flaws he himself detected, he well knew that Emerson would always rest secure on the pedestal where long ago he placed him. Likewise with Thoreau: If shortcomings were to be pointed out in this favorite, he wished to be the one to do it. And so, before taking Thoreau to task for certain inaccuracies, he takes Lowell to task for criticizing Thoreau. He then proceeds, not without evident satisfaction, to call attention to Thoreau's "slips" as an observer and reporter of nature; yet in no carping spirit, but, as he himself has said: "Not that I love Thoreau less, but that I love truth more."

The "Short Studies in Contrasts," the "Day by

PREFACE

Day" notes, "Gleanings," and the "Sundown Papers" which comprise the latter part of this, the last, posthumous volume by John Burroughs, were written during the closing months of his life. Contrary to his custom, he wrote these usually in the evening, or, less frequently, in the early morning hours, when, homesick and far from well, with the ceaseless pounding of the Pacific in his ears, and though incapable of the sustained attention necessary for his best work, he was nevertheless impelled by an unwonted mental activity to seek expression.

If the reader misses here some of the charm and power of his usual writing, still may he welcome this glimpse into what John Burroughs was doing and thinking during those last weeks before the illness came which forced him to lay aside his pen.

CLARA BARRUS

WOODCHUCK LODGE ROXBURY-IN-THE-CATSMILLS

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I

EMERSON AND HIS JOURNALS

I

EMERSON'S fame as a writer and thinker was firmly established during his lifetime by the books he gave to the world. His Journals, published over a quarter of a century after his death, nearly or quite double the bulk of his writing, and while they do not rank in literary worth with his earlier works, they yet throw much light upon his life and character and it is a pleasure to me, in these dark and troublesome times, and near the sundown of my life, to go over them and point out in some detail their value and significance.

Emerson was such an important figure in our literary history, and in the moral and religious development of our people, that attention cannot be directed to him too often. He could be entirely reconstructed from the unpublished matter which he left. Moreover, just to come in contact with him in times like ours is stimulating and refreshing. The younger generation will find that he

¹ Written during the World War. — C. B.

can do them good if they will pause long enough in their mad skirting over the surface of things to study him.

For my own part, a lover of Emerson from early manhood. I come back to him in my old age with a sad but genuine interest. I do not hope to find the Emerson of my youth - the man of daring and inspiring affirmation, the great solvent of a world of encrusted forms and traditions, which is so welcome to a young man - because I am no longer a young man. Emerson is the spokesman and prophet of youth and of a formative, idealistic age. His is a voice from the heights which are ever bathed in the sunshine of the spirit. I find that something one gets from Emerson in early life does not leave him when he grows old. It is a habit of mind, a test of values, a strengthening of one's faith in the essential soundness and goodness of creation. He helps to make you feel at home in nature, and in your own land and generation. He permanently exalts your idea of the mission of the poet, of the spiritual value of the external world, of the universality of the moral law, and of our kinship with the whole of nature.

There is never any despondency or infirmity of faith in Emerson. He is always hopeful and courageous, and is an antidote to the pessimism and materialism which existing times tend to foster. Open anywhere in the Journals or in the Essays

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and we find the manly and heroic note. He is an unconquerable optimist, and says boldly, "Nothing but God can root out God," and he thinks that in time our culture will absorb the hells also. He counts "the dear old Devil" among the good things which the dear old world holds for him. He saw so clearly how good comes out of evil and is in the end always triumphant. Were he living in our day, he would doubtless find something helpful and encouraging to say about the terrific outburst of scientific barbarism in Europe.

It is always stimulating to hear a man ask such a question as this, even though he essay no answer to it: "Is the world (according to the old doubt) to be criticized otherwise than as the best possible in the existing system, and the population of the world the best that soils, climate, and animals permit?"

I note that in 1837 Emerson wrote this about the Germans: "I do not draw from them great influence. The heroic, the holy, I lack. They are contemptuous. They fail in sympathy with humanity. The voice of nature they bring me to hear is not divine, but ghastly, hard, and ironical. They do not illuminate me: they do not edify me." Is not this the German of to-day? If Emerson were with us now he would see, as we all see, how the age of idealism and spiritual power in Germany that gave the world the great composers

and the great poets and philosophers — Bach, Beethoven, Wagner, Goethe, Schiller, Lessing, Kant, Hegel, and others — has passed and been succeeded by the hard, cruel, and sterile age of materialism, and the domination of an aggressive and conscienceless military spirit. Emerson was the poet and prophet of man's moral nature, and it is this nature — our finest and highest human sensibilities and aspirations toward justice and truth — that has been so raided and trampled upon by the chief malefactor and world outlaw in the present war.

II

MEN who write Journals are usually men of certain marked traits — they are idealists, they love solitude rather than society, they are self-conscious, and they love to write. At least this seems to be true of the men of the past century who left Journals of permanent literary worth — Amiel, Emerson, and Thoreau. Amiel's Journal has more the character of a diary than has Emerson's or Thoreau's, though it is also a record of thoughts as well as of days. Emerson left more unprinted matter than he chose to publish during his lifetime.

The Journals of Emerson and Thoreau are largely made up of left-overs from their published works, and hence as literary material, when compared with their other volumes, are of secondary im-

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portance. You could not make another "Walden" out of Thoreau's Journals, nor build up another chapter on "Self-Reliance," or on "Character," or on the "Over-Soul," from Emerson's, though there are fragments here and there in both that are on a level with their best work.

Emerson records in 1835 that his brother Charles wondered that he did not become sick at the stomach over his poor Journal: "Yet is obdurate habit callous even to contempt. I must scribble on . . ." Charles evidently was not a born scribbler like his brother. He was clearly more fond of real life and of the society of his fellows. He was an orator and could not do himself justice with the pen. Men who write Journals, as I have said, are usually men of solitary habits, and their Journal largely takes the place of social converse. Amiel, Emerson, and Thoreau were lonely souls, lacking in social gifts, and seeking relief in the society of their own thoughts. Such men go to their Journals as other men go to their clubs. They love to be alone with themselves, and dread to be benumbed or drained of their mental force by uncongenial persons. To such a man his Journal becomes his duplicate self and he says to it what he could not say to his nearest friend. It becomes both an altar and a confessional. Especially is this true of deeply religious souls such as the men I have named. They commune, through their

Journals, with the demons that attend them. Amiel begins his Journal with the sentence, "There is but one thing needful — to possess God," and Emerson's Journal in its most characteristic pages is always a search after God, or the highest truth.

"After a day of humiliation and stripes," he writes, "if I can write it down, I am straightway relieved and can sleep well. After a day of joy, the beating heart is calmed again by the diary. If grace is given me by all angels and I pray, if then I can catch one ejaculation of humility or hope and set it down in syllables, devotion is at an end." "I write my journal, I deliver my lecture with joy," but "at the name of society all my repulsions play, all my quills rise and sharpen."

He clearly had no genius for social intercourse. At the age of thirty he said he had "no skill to live with men; that is, such men as the world is made of; and such as I delight in I seldom find." Again he says, aged thirty-two, "I study the art of solitude; I yield me as gracefully as I can to destiny," and adds that it is "from eternity a settled thing" that he and society shall be "nothing to each other." He takes to his Journal instead. It is his house of refuge.

Yet he constantly laments how isolated he is, mainly by reason of the poverty of his nature, his want of social talent, of animal heat, and of sympathy with the commonplace and the humdrum.

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"I have no animal spirits, therefore when surprised by company and kept in a chair for many hours. my heart sinks, my brow is clouded, and I think I will run for Acton woods and live with the squirrels henceforth." But he does not run away: he often takes it out in hoeing in his garden: "My good hoe as it bites the ground revenges my wrongs, and I have less lust to bite my enemies." "In smoothing the rough hillocks I smooth my temper. In a short time I can hear the bobolinks sing and see the blessed deluge of light and color that rolls around me." Somewhere he has said that the writer should not dig, and vet again and again we find him resorting to hoe or spade to help him sleep, as well as to smooth his temper: "Yesterday afternoon. I stirred the earth about my shrubs and trees and quarrelled with the piper-grass, and now I have slept, and no longer am morose nor feel twitchings in the muscles of my face when a visitor is by." We welcome these and many another bit of self-analysis: "I was born with a seeing eye and not a helping hand. I can only comfort my friends by thought, and not by love or aid." "I was made a hermit and am content with my lot. I pluck golden fruit from rare meetings with wise men." Margaret Fuller told him he seemed always on stilts: "It is even so. Most of the persons whom I see in my own house I see across a gulf. I cannot go to them nor they come to me.

Nothing can exceed the frigidity and labor of my speech with such. You might turn a yoke of oxen between every pair of words; and the behavior is as awkward and proud."

.

"I would have my book read as I have read my favorite books, not with explosion and astonishment, a marvel and a rocket, but a friendly and agreeable influence stealing like a scent of a flower, or the sight of a new landscape on a traveller. I neither wish to be hated and defied by such as I startle, nor to be kissed and hugged by the young whose thoughts I stimulate."

Here Emerson did center in himself and never apologized. His gospel of self-reliance came natural to him. He was emphatically self, without a trace of selfishness. He went abroad to study himself more than other people — to note the effect of Europe on himself. He says, "I believe it's sound philosophy that wherever we go, whatever we do, self is the sole object we study and learn. Montaigne said himself was all he knew. Myself is much more than I know, and yet I know nothing else." In Paris he wrote to his brother William, "A lecture at the Sorbonne is far less useful to me than a lecture that I write myself": and as for the literary society in Paris, though he thought longingly of it, yet he said, "Probably in vears it would avail me nothing."

EMERSON AND HIS JOURNALS

The Journals are mainly a record of his thoughts and not of his days, except so far as the days brought him ideas. Here and there the personal element creeps in — some journey, some bit of experience, some visitor, or walks with Channing, Hawthorne, Thoreau, Jones Very, and others; some lecturing experience, his class meetings, his travels abroad and chance meetings with distinguished men. But all the more purely personal element makes up but a small portion of the ten thick volumes of his Journal. Most readers, I fancy, will wish that the proportion of these things were greater. We all have thoughts and speculations of our own, but we can never hear too much about a man's real life.

Emerson stands apart from the other poets and essayists of New England, and of English literature generally, as of another order. He is a reversion to an earlier type, the type of the bard, the skald, the poet-seer. He is the poet and prophet of the moral ideal. His main significance is religious, though nothing could be farther from him than creeds and doctrines, and the whole ecclesiastical formalism. There is an atmosphere of sanctity about him that we do not feel about any other poet and essayist of his time. His poems are the fruit of Oriental mysticism and bardic fervor grafted upon the shrewd, parsimonious, New England puritanic stock. The stress and wild, uncertain

melody of his poetry is like that of the wind-harp. No writing surpasses his in the extent to which it takes hold of the concrete, the real, the familiar, and none surpasses his in its elusive, mystical suggestiveness, and its cryptic character. It is Yankee wit and shrewdness on one side, and Oriental devoutness, pantheism, and symbolism on the other. Its cheerful and sunny light of the common day enhances instead of obscures the light that falls from the highest heaven of the spirit. Saadi or Hafiz or Omar might have fathered him, but only a New England mother could have borne him. Probably more than half his poetry escapes the average reader; his longer poems, like "Initial, Dæmonic, and Celestial Love," "Monadnoc," "Merlin," "The Sphinx," "The World-Soul," set the mind groping for the invisible rays of the spectrum of human thought and knowledge, but many of the shorter poems, such as "The Problem," "Each and All." "Sea-Shore," "The Snow-Storm," "Musketaquid," "Days," "Song of Nature," "My Garden," "Boston Hymn," "Concord Hymn," and others, are among the most precious things in our literature.

As Emerson was a bard among poets, a seer among philosophers, a prophet among essayists, an oracle among ethical teachers, so, as I have said, was he a solitary among men. He walked alone. He somewhere refers to his "porcupine impossi-

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bility of contact with men." His very thoughts are not social among themselves, they separate. Each stands alone; often they hardly have a bowing acquaintance; over and over their juxtaposition is mechanical and not vital. The redeeming feature is that they can afford to stand alone, like shafts of marble or granite.

The force and worth of his page is not in its logical texture, but in the beauty and truth of its isolated sentences and paragraphs. There is little inductive or deductive reasoning in his books, but a series of affirmations whose premises and logical connection the reader does not always see.

He records that his hearers found his lectures fine and poetical but a little puzzling. "One thought them as good as a kaleidoscope." The solid men of business said that they did not understand them but their daughters did.

The lecture committee in Illinois in 1856 told him that the people wanted a hearty laugh. "The stout Illinoian," not finding the laugh, "after a short trial walks out of the hall." I think even his best Eastern audiences were always a good deal puzzled. The lecturer never tried to meet them halfway. He says himself of one of his lectures, "I found when I had finished my new lecture that it was a very good house, only the architect had unfortunately omitted the stairs." The absence of the stairs in his house — of an easy entrance

into the heart of the subject, and of a few consecutive and leading ideas — will, in a measure, account for the bewilderment of his hearers. When I heard Emerson in 1871 before audiences in Baltimore and Washington, I could see and feel this uncertainty and bewilderment in his auditors.

His lectures could not be briefly summarized. They had no central thought. You could give a sample sentence, but not the one sentence that commanded all the others. Whatever he called it, his theme, as he himself confesses, was always fundamentally the same: "In all my lectures I have taught one doctrine, namely, the infinitude of the private man. This the people accept readily enough and even with loud commendations as long as I call the lecture Art or Politics, or Literature, or the Household, but the moment I call it Religion they are shocked, though it be only the application of the same truth which they receive everywhere else to a new class of facts."

Emerson's supreme test of a man, after all other points had been considered, was the religious test: Was he truly religious? Was his pole star the moral law? Was the sense of the Infinite ever with him? But few contemporary authors met his requirements in this respect. After his first visit abroad, when he saw Carlyle, Landor, Coleridge, Wordsworth, and others, he said they were all second- or third-rate men because of their want

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of the religious sense. They all looked backward to a religion of other ages, and had no faith in a present revelation.

His conception of the divine will as the eternal tendency to the good of the whole, active in every atom, every moment, is one of the thoughts in which religion and science meet and join hands.

III

In Emerson's Journal one sees the Emersonian worlds in their making — the essays, the addresses, the poems. Here are the nebulæ and star-dust out of which most of them came, or in which their suggestion lies. Now and then there is quite as good stuff as is found in his printed volumes, pages and paragraphs from the same high heaven of æsthetic emotion. The poetic fragments and wholes are less promising, I think, than the prose; they are evidently more experimental, and show the 'prentice hand more.

The themes around which his mind revolved all his life — nature, God, the soul — and their endless variations and implications, recur again and again in each of the ten printed volumes of the Journals. He has new thoughts on Character, Self-Reliance, Heroism, Manners, Experience, Nature, Immortality, and scores of other related subjects every day, and he presents them in new connections and with new images. His mind had

marked centrality, and fundamental problems were always near at hand with him. He could not get away from them. He renounced the pulpit and the creeds, not because religion meant less to him, but because it meant more. The religious sentiment, the feeling of the Infinite, was as the sky over his head, and the earth under his feet.

The whole stream of Emerson's mental life apparently flowed through his Journals. They were the repository of all his thoughts, all his speculations, all his mental and spiritual experiences. What a mélange they are! Wise sayings from his wide reading, from intercourse with men, private and public, sayings from his farmer neighbors, anecdotes, accounts of his travels, or his walks, solitary or in the company of Channing, Hawthorne, or Thoreau, his gropings after spiritual truths, and a hundred other things, are always marked by what he says that Macaulay did not possess—elevation of mind—and an abiding love for the real values in life and letters.

Here is the prose origin of "Days": "The days come and go like muffled and veiled figures sent from a distant friendly party, but they say nothing, and if we do not use the gifts they bring, they carry them as silently away." In this brief May entry we probably see the inception of the "Humble-Bee" poem: "Yesterday in the woods I followed the fine humble bee with rhymes and fancies free."

Now and then we come upon the germ of other poems in his prose. Here is a hint of "Each and All" in a page written at the age of thirty-one: "The shepherd or the beggar in his red cloak little knows what a charm he gives to the wide landscape that charms you on the mountain-top and whereof he makes the most agreeable feature, and I no more the part my individuality plays in the All." The poem, his reader will remember, begins in this wise:

"Little thinks, in the field, you red-cloaked clown Of thee from the hill-top looking down."

In a prose sentence written in 1835 he says: "Nothing is beautiful alone. Nothing but is beautiful in the whole." In the poem above referred to this becomes:

"All are needed by each one; Nothing is fair or good alone."

In 1856 we find the first stanza of his beautiful "Two Rivers," written in prose form: "Thy voice is sweet, Musketaquid; repeats the music of the rain; but sweeter rivers silent flit through thee as those through Concord plain." The substance of the next four stanzas is in prose form also: "Thou art shut in thy banks; but the stream I love, flows in thy water, and flows through rocks and through the air, and through darkness, and through men, and women. I hear and see the inundation and eternal spending of the stream, in winter and

in summer, in men and animals, in passion and thought. Happy are they who can hear it"; and so on. In the poem these sentences become:

"Thou in thy narrow banks are pent:
The stream I love unbounded goes
Through flood and sea and firmament;
Through light, through life, it forward flows.

" I see the inundation sweet,
 I hear the spending of the stream
 Through years, through men, through Nature fleet,
 Through love and thought, through power and dream."

It is evident that Emerson was a severe critic of his own work. He knew when he had struck fire, and he knew when he had failed. He was as exacting with himself as with others. His conception of the character and function of the poet was so high that he found the greatest poets wanting. The poet is one of his three or four everrecurring themes. He is the divine man. He is bard and prophet, seer and savior. He is the acme of human attainment. Verse devoid of insight into the method of nature, and devoid of religious emotion, was to him but as sounding brass and tinkling cymbal. He called Poe "the jingle man" because he was a mere conjurer with words. The intellectual content of Poe's works was negligible. He was a wizard with words and measures, but a pauper in ideas. He did not add to our knowledge, he did not add to our love of anything in nature or in life, he did not contribute to our con-

tentment in the world — the bread of life was not in him. What was in him was mastery over the architectonics of verse. Emerson saw little in Shelley for the same reason, but much in Herbert and Donne. Religion, in his sense of the term, the deep sea into which the streams of all human thought empty. - was his final test of any man. Unless there was something fundamental about him, something that savored of the primordial deep of the universal spirit, he remained unmoved. The elemental azure of the great bodies of water is suggestive of the tone and hue Emerson demanded in great poetry. He found but little of it in the men of his time: practically none in the contemporary poets of New England. It was probably something of this pristine quality that arrested Emerson's attention in Walt Whitman's "Leaves of Grass." He saw in it "the Appalachian enlargement of outline and treatment for service to American literature."

Emerson said of himself: "I am a natural reader, and only a writer in the absence of natural writers. In a true time I should never have written." We must set this statement down to one of those fits of dissatisfaction with himself, those negative moods that often came upon him. What he meant by a true time is very obscure. In an earlier age he would doubtless have remained a preacher, like his father and grandfather, but coming under the

influence of Goethe, Carlyle, and Wordsworth, and other liberating influences of the nineteenth century, he was bound to be a writer. When he was but twenty-one he speaks of his immoderate fondness for writing. Writing was the passion of his life, his supreme joy, and he went through the world with the writer's eye and ear and hand always on duty. And his contribution to the literature of man's higher moral and æsthetic nature is one of the most valuable of the age in which he lived.

IV

APART from the account of his travels and other personal experiences, the Journals are mainly made up of discussions of upwards of fifty subjects of general and fundamental interest, ranging from art to war, and looked at from many and diverse points of view. Of these subjects three are dominant. recurring again and again in each volume. These are nature, literature, and religion. Emerson's main interests centered in these themes. Using these terms in their broadest sense, this is true, I think, of all his published books. Emerson was an idealist, first, last, and all the time, and he was a literary artist, or aimed to be, first, last, and all the time, and in the same measure and to the same extent was he a devout religious soul, using the term religion as he sometimes uses it, as a feeling of the Infinite.

There are one hundred and seventy-six paragraphs, long and short, given to literature and art, and one hundred and sixty given to religious subjects, and over thirty given to nature. It is interesting to note that he devotes more paragraphs to woman than to man; and more to society than to solitude, though only to express his dislike of the former and his love for the latter. There are more thoughts about science than about metaphysics, more about war than about love, more about poetry than about philosophy, more on beauty than on knowledge, more on walking than on books. There are three times as many paragraphs on nature (thirty-three) as on the Bible, all of which is significant of his attitude of mind.

Emerson was a preacher without a creed, a scholar devoted to super-literary ends, an essayist occupied with thoughts of God, the soul, nature, the moral law — always the literary artist looking for the right word, the right image, but always bending his art to the service of religious thought. He was one of the most religious souls of his country and time, or of any country and time, yet was disowned by all the sects and churches of his time. He made religion too pervasive, and too inclusive to suit them; the stream at once got out of its banks and inundated all their old landmarks. In the last analysis of his thought, his ultimate theme was God, and yet he never allowed himself to at-

tempt any definite statement about God — refusing always to discuss God in terms of human personality. When Emerson wrote "Representative Men" he felt that Jesus was the Representative Man whom he ought to sketch, "but the task required great gifts — steadiest insight and perfect temper; else the consciousness of want of sympathy in the audience would make one petulant and sore in spite of himself."

There are few great men in history or philosophy or literature or poetry or divinity whose names do not appear more or less frequently in the Journals. For instance, in the Journal of 1864 the names or works of one hundred and seventeen men appear. ranging from Zeno to Jones Very. And this is a fair average. Of course the names of his friends and contemporaries appear the most frequently. The name that recurs the most often is that of his friend and neighbor Thoreau. There are ninetyseven paragraphs in which the Hermit of Walden is the main or the secondary figure. He discusses him and criticizes him, and quotes from him, always showing an abiding interest in, and affection for, him. Thoreau was in so many ways so characteristically Emersonian that one wonders what influence it was in the place or time that gave them both, with their disparity of ages, so nearly the same stamp. Emerson is by far the more imposing figure, the broader, the wiser, the more

tolerant, the more representative: he stood foursquare to the world in a sense that Thoreau did not. Thoreau presented a pretty thin edge to the world. If he stood broadside to anything, it was to nature. He was undoubtedly deeply and permanently influenced by Emerson both in his mental habits and in his manner of life, vet the main part of him was original and unadulterated Thoreau. His literary style is in many respects better than that of Emerson; its logical texture is better; it has more continuity, more evolution, it is more flexible and adaptive: it is the medium of a lesser mind, but of a mind more thoroughly imbued with the influence of the classical standards of modern literature. I believe "Walden" will last as long as anything Emerson has written, if not longer. It is the fruit of a sweeter solitude and detachment from the world than Emerson ever knew, a private view of nature, and has a fireside and campside quality that essays fashioned for the lecture platform do not have. Emerson's pages are more like mosaics, richly inlaid with gems of thought and poetry and philosophy, while Thoreau's are more like a closely woven, many-colored textile.

Thoreau's "Maine Woods" I look upon as one of the best books of the kind in English literature. It has just the right tone and quality, like Dana's "Two Years Before the Mast" — a tone and quality that sometimes come to a man when he makes

less effort to write than to see and feel truly. He does not aim to exploit the woods, but to live with them and possess himself of their spirit. The Cape Cod book also has a similar merit; it almost leaves a taste of the salt sea spray upon your lips. Emerson criticizes Thoreau freely, and justly, I think. As a person he lacked sweetness and winsomeness; as a writer he was at times given to a meaningless exaggeration.

Henry Thoreau sends me a paper with the old fault of unlimited contradiction. The trick of his rhetoric is soon learned: it consists in substituting for the obvious word and thought its diametrical antagonist. He praises wild mountains and winter forests for their domestic air; snow and ice for their warmth; villagers and wood-choppers for their urbanity, and the wilderness for resembling Rome and Paris. With the constant inclination to dispraise cities and civilization, he yet can find no way to know woods and woodmen except by paralleling them with towns and townsmen. Channing declared the piece is excellent: but it makes me nervous and wretched to read it, with all its merits.

I told Henry Thoreau that his freedom is in the form, but he does not disclose new matter. I am very familiar with all his thoughts,—they are my own quite originally drest. But if the question be, what new ideas has he thrown into circulation, he has not yet told what that is which he was created to say. I said to him what I often feel, I only know three persons who seem to me fully to see this law of reciprocity or compensation—himself, Alcott, and myself: and 't is odd that we should all be neighbors, for in the wide land or the wide earth I do not know another who

seems to have it as deeply and originally as these three Gothamites.

A remark of Emerson's upon Thoreau calls up the image of John Muir to me: "If I knew only Thoreau, I should think coöperation of good men impossible. Must we always talk for victory, and never once for truth, for comfort, and joy?" Then, after crediting Thoreau with some admirable gifts,—centrality, penetration, strong understanding,—he proceeds to say, "all his resources of wit and invention are lost to me, in every experiment, year after year, that I make to hold intercourse with his mind. Always some weary captious paradox to fight you with, and the time and temper wasted."

Emerson met John Muir in the Yosemite in 1871 and was evidently impressed with him. Somewhere he gives a list of his men which begins with Carlyle and ends with Muir. Here was another man with more character than intellect, as Emerson said of Carlyle, and with the flavor of the wild about him. Muir was not too compliant and deferential. He belonged to the sayers of No. Contradiction was the breath of his nostrils. He had the Scottish chariness of bestowing praise or approval, and could surely give Emerson the sense of being met which he demanded. Writing was irksome to Muir as it was to Carlyle, but in monologue, in an attentive company, he shone;

not a great thinker, but a mind strongly characteristic. His philosophy rarely rose above that of the Sunday school, but his moral fiber was very strong, and his wit ready and keen. In conversation and in daily intercourse he was a man not easily put aside. Emerson found him deeply read in nature lore and with some suggestion about his look and manner of the wild and rugged solitude in which he lived so much.

Emerson was alive to everything around him; every object touched some spring in his mind; the church spire, the shadows on the windows at night, the little girl with her pail of whortleberries, the passing bee, bird, butterfly, the clouds, the streams, the trees — all found his mind open to any suggestion they might make. He is intent on the now and the here. He listens to every newcomer with an expectant air. He is full of the present. I once saw him at West Point during the June examinations. How alert and eager he was! The bored and perfunctory air of his fellow members on the Board of Visitors contrasted sharply with his active, expectant interest.

V

HE lived absolutely in his own day and generation, and no contemporary writer of real worth escaped his notice. He is never lavish in his praise, but is for the most part just and discrimi-

nating. Walt Whitman is mentioned only thrice in the Journals, Lowell only twice, Longfellow once or twice, Matthew Arnold three times, but Jones Very is quoted and discussed sixteen times. Very was a poet who had no fast colors; he has quite faded out in our day.

Of Matthew Arnold Emerson says: "I should like to call attention to the critical superiority of Arnold, his excellent ear for style, and the singular poverty of his poetry, that in fact he has written but one poem, 'Thyrsis,' and that on an inspiration borrowed from Milton." Few good readers, I think, will agree with Emerson about the poverty of Arnold's poetry. His "Dover Beach" is one of the first-rate poems in English literature. Emerson has words of praise for Lowell - thinks the production of such a man "a certificate of good elements in the soil, climate, and institutions of America," but in 1868 he declares that his new poems show an advance "in talent rather than in poetic tone": that the advance "rather expresses his wish, his ambition, than the uncontrollable interior impulse which is the authentic mark of a new poem, and which is unanalysable, and makes the merit of an ode of Collins, or Grav, or Wordsworth, or Herbert, or Byron." He evidently thought little of Lowell's severe arraignment of him in a college poem which he wrote soon after the delivery of the famous "Divinity School

Address." The current of religious feeling in Cambridge set so strongly against Emerson for several years that Lowell doubtless merely reflected it. Why did he not try to deflect it, or to check it? And yet, when Emerson's friends did try to defend him, it was against his will. He hated to be defended in a newspaper: "As long as all that is said is against me I feel a certain austere assurance of success, but as soon as honeyed words of praise are spoken for me I feel as one that lies unprotected before his enemies."

Next to Thoreau, Emerson devotes to Alcott more space in his Journals than to any other man. It is all telling interpretation, description, and criticism. Truly, Alcott must have had some extraordinary power to have made such a lasting impression upon Emerson. When my friend Myron Benton and I first met Emerson in 1863 at West Point, Emerson spoke of Alcott very pointedly, and said we should never miss a chance to hear his conversation, but that when he put pen to paper all his inspiration left him. His thoughts faded as soon as he tried to set them down. There must have been some curious illusion about it all on the part of Emerson, as no fragment of Alcott's wonderful talk worth preserving has come down to us. The waters of the sea are blue, but not in the pailful. There must have been something analogous in Alcott's conversations, some total effect

which the details do not justify, or something in the atmosphere which he created, that gave certain of his hearers the conviction that they were voyaging with him through the celestial depths.

It was a curious fact that Alcott "could not recall one word or part of his own conversation, or of any one's, let the expression be never so happy." And he seems to have hypnotized Emerson in the same way. "He made here some majestic utterances, but so inspired me that even I forgot the words often." "Olympian dreams," Emerson calls his talk — moonshine, it appears at this distance.

"His discourse soars to a wonderful height," says Emerson, "so regular, so lucid, so playful, so new and disdainful of all boundaries of tradition and experience, that the hearers seem no longer to have bodies or material gravity, but almost they can mount into the air at pleasure, or leap at one bound out of this poor solar system. I say this of his speech exclusively, for when he attempts to write, he loses, in my judgment, all his power, and I derive more pain than pleasure from the perusal." Some illusion surely that made the effort to report him like an attempt to capture the rainbow, only to find it common water.

In 1842 Emerson devotes eight pages in his Journal to an analysis of Alcott, and very masterly they are. He ends with these sentences: "This

noble genius discredits genius to me. I do not want any more such persons to exist."

"When Alcott wrote from England that he was bringing home Wright and Lane, I wrote him a letter which I required him to show them, saying that they might safely trust his theories, but that they should put no trust whatever in his statement of facts. When they all arrived here—he and his victims—I asked them if he showed them the letter; they answered that he did; so I was clear."

Another neighbor who greatly impressed Emerson, and of whom he has much to say, was Father Taylor, the sailor preacher of Boston. There is nothing better in the Journals than the pages devoted to description and analysis of this remarkhe suggested able man. To Emerson wealth of Nature. He calls him a "godly poet, the Shakespear of the sailor and the poor." "I delight in his great personality, the way and sweep of the man which, like a frigate's way, takes up for the time the centre of the ocean, paves it with a white street, and all the lesser craft 'do curtsey to him, do him reverence." A man all emotion, all love, all inspiration, but, like Alcott, impossible to justify your high estimate of by any quotation. His power was all personal living power, and could not be transferred to print. The livid embers of his discourse became dead charcoal when reported by another, or, as Emerson more happily puts it,

"A creature of instinct, his colors are all opaline and dove's-neck-lustre and can only be seen at a distance. Examine them, and they disappear." More exactly they are visible only at a certain angle. Of course this is in a measure true of all great oratory—it is not so much the words as the man.

Speaking of Father Taylor in connection with Alcott, Emerson says that one was the fool of his ideas, and the other of his fancy.

An intellectual child of Emerson's was Ellery Channing, but he seems to have inherited in an exaggerated form only the faults of his father. Channing appears to have been a crotchety, disgruntled person, always aiming at walking on his head instead of on his heels. Emerson quotes many of his sayings, not one of them worth preserving, all marked by a kind of violence and disjointedness. They had many walks together.

Emerson was so fond of paradoxes and extreme statements that both Channing and Thoreau seem to have vied with each other in uttering hard or capricious sayings when in his presence. Emerson catches at a vivid and picturesque statement, if it has even a fraction of truth in it, like a flycatcher at a fly.

A fair sample of Channing's philosophy is the following: "He persists in his bad opinion of orchards and farming, declares that the only success he ever

had with a farmer was that he once paid a cent for a russet apple; and farming, he thinks, is an attempt to outwit God with a hoe; that they plant a great many potatoes with much ado, but it is doubtful if they ever get the seed back." Channing seems to have dropped such pearls of wisdom as that all along the road in their walks! Another sample of Channing's philosophy which Emerson thinks worthy of quoting. They were walking over the fields in November. Channing complained of the poverty of invention on the part of Nature: "'Why, they had frozen water last year; why should they do it again? Therefore it was so easy to be an artist, because they do the same thing always,' and therefore he only wants time to make him perfect in the imitation."

VI

EMERSON was occupied entirely with the future, as Carlyle was occupied entirely with the past. Emerson shared the open expectation of the new world, Carlyle struggled under the gloom and pessimism of the old—a greater character, but a far less lambent and helpful spirit. Emerson seems to have been obsessed with the idea that a new and greater man was to appear. He looked into the face of every newcomer with an earnest, expectant air, as if he might prove to be the new man: this thought inspires the last stanzas of his "Song of Nature":

"Let war and trade and creeds and song Blend, ripen race on race, The sunburnt world a man shall breed Of all the zones and countless days.

"No ray is dimmed, no atom worn, My oldest force is good as new, And the fresh rose on yonder thorn Gives back the bending heavens in dew."

Emerson was under no illusion as to the effect of distance. He knew the past was once the present, and that if it seemed to be transformed and to rise into cloud-land behind us, it was only the enchantment of distance - an enchantment which men have been under in all ages. The everyday, the near-at-hand, become prosaic; there is no room for the alchemy of time and space to work in. It has been said that all martyrdoms looked mean in the suffering. Holy ground is not holy when we walk upon it. The now and the here seem cheap and commonplace. Emerson knew that "a score of airy miles will smooth rough Monadnoc to a gem," but he knew also that it would not change the character of Monadnoc. He knew that the past and the present, the near and the far, were made of one stuff. He united the courage of science with the sensibility of poetry. He would not be defrauded of the value of the present hour, or of the thoughts which he and other men think, or of the lives which they live to-day. "I will tell you how you can enrich me - if you will recommend to-day to me." His doctrine of self-reliance,

which he preached in season and out of season, was based upon the conviction that Nature and the soul do not become old and outworn, that the great characters and great thoughts of the past were the achievements of men who trusted themselves before custom or law. The sun shines to-day; the constellations hang there in the heavens the same as of old. God is as near us as ever He was — why should we take our revelations at second hand? No other writer who has used the English language has ever preached such a heroic doctrine of self-trust, or set the present moment so high in the circle of the years, in the diadem of the days.

It is an old charge against Emerson that he was deficient in human sympathy. He makes it against himself; the ties of association which most persons find so binding seemed to hold him very lightly. There was always a previous question with him — the moral value of one's associations. Unless you sicken and die to some purpose, why such an ado about it? Unless the old ruin of a house harbored great men and great women, or was the scene of heroic deeds, why linger around it? The purely human did not appeal to him: history interested him only as it threw light upon to-day. History is a record of the universal mind; hence of your mind, of my mind - "all the facts of history preëxist in the mind as laws." "What Plato thought, every man may think. What a

saint has felt, he may feel; what at any time has befallen anv man, he can understand." "All that Shakespear says of the king, vonder slip of a boy that reads in the corner feels to be true of himself": and so on, seeing in history only biography, and interested in the past only as he can link it with the present. Always an intellectual interest, never a human or an emotional one. His Journal does not reveal him going back to the old places, or lingering fondly over the memories of his youth. He speaks of his "unpleasing boyhood," of his unhappy recollections, etc., not because of unkindness or hardships experienced, but because of certain shortcomings or deficiencies of character and purpose, of which he is conscious - "some meanness," or "unfounded pride" which may lower him in the opinion of others. Pride, surely, but not ignoble pride.

Emerson's expectation of the great poet, the great man, is voiced in his "Representative Men": "If the companions of our childhood should turn out to be heroes, and their condition regal, it would not surprise us." On the contrary, I think it would surprise most of us very much. It is from the remote, the unfamiliar, that we expect great things. We have no illusions about the near-at-hand. But with Emerson the contrary seems to have been the case. He met the new person or took up the new volume with a thrill of expectancy, a condition

of mind which often led him to exaggerate the fact. and to give an undue bias in favor of the novel. the audacious, the revolutionary. His optimism carried him to great lengths. Many of the new stars in his literary firmament have quite faded out - all of them, I think, but Walt Whitman. It was mainly because he was so full of faith in the coming man that he gave, offhand, such a tremendous welcome to "Leaves of Grass" - a welcome that cooled somewhat later, when he found he had got so much more of the unconventional and the self-reliant than he had bargained for. I remember that when I spoke of Walt Whitman to him in Washington in 1871 or '72, he said he wished Whitman's friends would "quarrel" with him more about his poems, as some years earlier he himself had done, on the occasion when he and Whitman walked for hours on Boston Common, he remonstrating with Whitman about certain passages in "Leaves of Grass" which he tried in vain to persuade him to omit in the next edition. Whitman would persist in being Whitman. Now, counseling such a course to a man in an essay on "Self-Reliance" is quite a different thing from entirely approving of it in a concrete example.

In 1840 Emerson writes: "A notice of modern literature ought to include (ought it not?) a notice of Carlyle, of Tennyson, of Landor, of Bettina, of Sampson Reed." The first three names surely, but

who is Bettina, the girl correspondent of Goethe, that she should go in such a list? Reed, we learn, was a Boston bank clerk, and a Swedenborgian, who wrote a book on the growth of the mind, from which Emerson quotes, and to which he often alludes, a book that has long been forgotten; and is not Bettina forgotten also?

Emerson found more in Jones Very than has any one else: the poems of Very that he included in "Parnassus" have little worth. A comparatively unknown and now forgotten English writer also moved Emerson unduly. Listen to this: "In England, Landor, De Quincey, Carlyle, three men of original literary genius; but the scholar, the catholic, cosmic intellect, Bacon's own son, the Lord Chief Justice on the Muse's Bench is" — who do you think, in 1847? - "Wilkinson"! Garth Wilkinson, who wrote a book on the human body. Emerson says of him in "English Traits": "There is in the action of his mind a long Atlantic roll, not known except in deepest waters, and only lacking what ought to accompany such powers, a manifest centrality." To bid a man's stock up like that may not, in the long run, be good for the man, but it shows what a generous, optimistic critic Emerson was.

VII

In his published works Emerson is chary of the personal element; he says: "We can hardly speak

of our own experiences and the names of our friends sparingly enough." In his books he would be only an impersonal voice; the man Emerson, as such, he hesitated to intrude. But in the Journals we get much more of the personal element, as would be expected. We get welcome glimpses of the man, of his moods, of his diversions, of his home occupations, of his self-criticism. We see him as a host, as a lecturer, as a gardener, as a member of a rural community. We see him in his walks and talks with friends and neighbors — with Alcott, Thoreau, Channing, Jones Very, Hawthorne, and others — and get snatches of the conversations. We see the growth of his mind, his gradual emancipation from the bondage of the orthodox traditions.

Very welcome is the growth of Emerson's appreciation of Wordsworth. As a divinity student he was severe in his criticism of Wordsworth, but as his own genius unfolded more and more he saw the greatness of Wordsworth, till in middle life he pronounced his famous Ode the high-water mark of English literature. Yet after that his fondness for a telling, picturesque figure allows him to inquire if Wordsworth is not like a bell with a wooden tongue. All this is an admirable illustration of his familiar dictum: "Speak what you think now in hard words, and to-morrow speak what to-morrow thinks in hard words again, though it contradict everything you say to-day."

In the Journals we see Emerson going up and down the country in his walks, on his lecture tours in the West, among his neighbors, wherever and whenever he goes as alert and watchful as a sportsman. He was a sportsman of a new kind: his game was ideas. He was always looking for hints and images to aid him in his writings. He was like a bird perpetually building a nest; every moment he wanted new material, and everything that diverted him from his quest was an unwelcome interruption. He had no great argument to build, no system of philosophy to organize and formulate. no plot, like a novelist, to work out, no controversy on hand - he wanted pertinent, concrete, and striking facts and incidents to weave in his essay on Fate, or Circles, or Character, or Farming, or Worship, or Wealth - something that his intuitive and disjointed habit of thought could seize upon and make instant use of.

We see him walking in free converse with his friends and neighbors, receiving them in his own house, friendly and expectant, but always standing aloof, never giving himself heartily to them, exchanging ideas with them across a gulf, prizing their wit and their wisdom, but cold and reserved toward them personally, destitute of all feeling of comradeship, an eye, an ear, a voice, an intellect, but rarely, or in a minor degree, a heart, or a feeling of fellowship — a giving and a taking quite above

and beyond the reach of articulate speech. When they had had their say, he was done with them. When you have found a man's limitations, he says, it is all up with him. After your friend has fired his shot, good-by. The pearl in the oyster is what is wanted, and not the oyster. "If I love you, what is that to you?" is a saying that could have been coined only in Concord. It seems to me that the basis of all wholesome human attachment is character, not intellect. Admiration and love are quite different things. Transcendental friendships seem to be cold, bloodless affairs.

One feels as if he wanted to squeeze or shake Emerson to see if he cannot get some normal human love out of him, a love that looks for nothing beyond love, a love which is its own excuse for being, a love that is not a bargain — simple, common, disinterested human love. But Emerson said, "I like man but not men."

"You would have me love you," he writes in his Journal. "What shall I love? Your body? The supposition disgusts you. What you have thought and said? Well, whilst you were thinking and saying them, but not now. I see no possibility of loving anything but what now is, and is becoming; your courage, your enterprise, your budding affection, your opening thought, your prayer, I can love — but what else?"

Can you not love your friend for himself alone,

for his kinship with you, without taking an inventory of his moral and intellectual qualities; for something in him that makes you happy in his presence? The personal attraction which Whitman felt between himself and certain types of men. and which is the basis of most manly friendships, Emerson probably never felt. One cannot conceive of him as caring deeply for any person who could not teach him something. He says, "I speculate on virtue, not burn with love." Again, "A rush of thoughts is the only conceivable prosperity that can come to me." Pure intellectual values seem alone to have counted with Emerson and his followers. With men his question was, "What can you teach me?" With Nature, "What new image or suggestion have you got for me today?" With science. "What ethical value do your facts hold?" With natural history, "Can I translate your facts and laws into my supernatural history?" With civil history, "Will your record help me to understand my own day and land?" The quintessence of things was what he always sought.

"We cannot forgive another for not being ourselves," Emerson wrote in 1842, and then added, "We lose time in trying to be like others." One is reminded of passages in the Emerson-Carlyle correspondence, wherein each tried to persuade the other to be like himself. Carlyle would have Emerson "become concrete and write in prose the

straightest way," would have him come down from his "perilous altitude," "soliloquizing on the eternal mountain-tops only, in vast solitude, where men and their affairs lie all hushed in a very dim remoteness and only the man and the stars and the earth are visible — come down into your own poor Nineteenth Century, its follies, its maladies, its blind, or half-blind but gigantic toilings, its laughter and its tears, and try to evolve in some measure the hidden God-like that lies in it." "I wish you would take an American hero, one whom you really love, and give us a History of him - make an artistic bronze statue (in good words) of his Life and him!" Emerson's reply in effect is, Cremate your heroes and give me their ashes give me "the culled results, the quintessence of private conviction, a liber veritatis, a few sentences. hints of the final moral you draw from so much penetrating inquest into past and present men."

In reply to Carlyle's criticism of the remote and abstract character of his work, Emerson says, "What you say now and heretofore respecting the remoteness of my writing and thinking from real life, though I hear substantially the same criticism made by my countrymen, I do not know what it means. If I can at any time express the law and the ideal right, that should satisfy me without measuring the divergence from it of the last act of Congress."

VIII

EMERSON'S love of nature was one of his ruling passions. It took him to the country to live, it led him to purchase Walden Pond and the Walden woods: it led him forth upon his almost daily walks, winter and summer, to the fields and the woods. His was the love of the poet and the idealist, of the man who communes with Nature, and finds a moral and an intellectual tonic in her works. The major part of his poetry is inspired by Nature. He complains of Tennyson's poetry that it has few or no wood notes. His first book, "Nature," is steeped in religious and poetic emotion. Hesaid in his Journal in 1841: "All my thoughts are foresters. I have scarce a day-dream on which the breath of the pines has not blown, and their shadows waved. Shall I not then call my little book Forest Essays?" He finally called it "Nature." He loves the "hermit birds that harbor in the woods. I can do well for weeks with no other society than the partridge and the jay, my daily company."

"I have known myself entertained by a single dew-drop, or an icicle, by a liatris, or a fungus, and seen God revealed in the shadow of a leaf." He says that going to Nature is more than a medicine, it is health. "As I walked in the woods I felt what I often feel, that nothing can befall me in life, no calamity, no disgrace (leaving me my

eyes) to which Nature will not offer a sweet consolation. Standing on the bare ground with my head bathed by the blithe air, and uplifted into the infinite space, I became happy in my universal relations." This sentiment of his also recalls his lines:

"A woodland walk,
A quest of river-grapes, a mocking thrush,
A wild-rose, or rock-loving columbine,
Salve my worst wounds."

If life were long enough, among my thousand and one works should be a book of Nature whereof Howitt's Seasons should not be so much the model as the parody. It should contain the natural history of the woods around my shifting camp for every month in the year. It should tie their astronomy, botany, physiology, meteorology, picturesque, and poetry together. No bird, no bug, no bud, should be forgotten on his day and hour. To-day the chickadees, the robins, bluebirds and song-sparrows sang to me. I dissected the buds of the birch and the oak; in every one of the last is a star. The crow sat above as idle as I below. The river flowed brimful, and I philosophised upon this composite, collective beauty which refuses to be analysed. Nothing is beautiful alone. Nothing but is beautiful in the whole. Learn the history of a craneberry. Mark the day when the pine cones and acorns fall.

I go out daily and nightly to feed my eyes on the horizon and the sky, and come to feel the want of this scope as I do of water for my washing.

What learned I this morning in the woods, the oracular woods? Wise are they, the ancient nymphs; pleasing, sober, melancholy truth say those untameable savages, the pines.

He frequently went to Walden Pond of an afternoon and read Goethe or some other great author.

There was an element of mysticism in Emerson's love of nature as there is in that of all true nature-lovers. None knew better than he that nature is not all birds and flowers. His love of nature was that of the poet and artist, and not that of the scientist or naturalist.

"I tell you I love the peeping of the Hyla in a pond in April, or the evening cry of the whippoorwill, better than all the bellowing of all the Bulls of Bashan, or all the turtles of all Palestine."

Any personal details about his life which Emerson gives us are always welcome. We learn that his different winter courses of lectures in Boston, usually ten of them, were attended on an average by about five hundred persons, and netted him about five hundred dollars.

When he published a new volume, he was very liberal with presentation copies. Of his first volume of poems, published in 1846, he sent eighty copies to his friends. When "May-Day" was published in 1867, he sent fifty copies to friends; one of them went to Walt Whitman. I saw it the day it came. It was in a white dress (silk, I think); very beautiful. He sent a copy of his first volume of "Nature" to Landor. One would like to know what Landor said in reply. The copy he sent to Carlyle I saw in the Scot's library, in Cheyne Row, in 1871.

IX

EMERSON was so drawn to the racy and original that it seems as if original sin had a certain fascination for him. The austere, the Puritanical Emerson, the heir of eight generations of clergymen, the man who did not like to have Frederika Bremer play the piano in his house on Sunday, seems at times to covet the "swear-words" of the common people. They itch at his ears, they have flavor and reality. He sometimes records them in his Journal; for example, this remark of the Canadian wood-chopper who cut wood for his neighbor—he preferred to work by the job rather than by the day—the days were "so damned long!"

The mob, Emerson says, is always interesting: "A blacksmith, a truckman, a farmer, we follow into the bar-room and watch with eagerness what they shall say." "Cannot the stinging dialect of the sailor be domesticated?" "My page about Consistency would be better written, 'Damn Consistency." But try to fancy Emerson swearing like the men on the street! Once only he swore a sacred oath, and that he himself records: it was called out by the famous, and infamous, Fugitive Slave Law which made every Northern man hound and huntsman for the Southern slave-driver. "This filthy enactment," he says, "was made in the Nineteenth Century by men who could read and write. I will not obey it, by God!"

Evidently the best thing the laboring people had to offer Emerson was their racy and characteristic speech. When one of his former neighbors said of an eclipse of the sun that it looked as if a "nigger" was poking his head into the sun. Emerson recorded it in his Journal. His son reports that Emerson enjoyed the talk of the stable-men and used to tell their anecdotes and boasts of their horses when he came home: for example, "In the stable you'd take him for a slouch, but lead him to the door, and when he lifts up his eyes, and looks abroad, -by thunder! you'd think the sky was all horse." Such surprises and exaggerations always attracted him, unless they took a turn that made him laugh. He loved wit with the laugh taken out of it. The genial smile and not uproarious laughter suited his mood best.

He was a lover of quiet, twinkling humor. Such humor gleams out often in his Journal. It gleams in this passage about Dr. Ripley: "Dr. Ripley prays for rain with great explicitness on Sunday, and on Monday the showers fell. When I spoke of the speed with which his prayers were answered, the good man looked modest." There is another prayer-for-rain story that he enjoys telling: "Dr. Allyne, of Duxbury, prayed for rain, at church. In the afternoon the boys carried umbrellas. 'Why?' 'Because you prayed for rain.' 'Pooh! boys! we always pray for rain: it's customary.'"

At West Point he asked a lieutenant if they had morning prayers at college. "We have reveillé beat, which is the same thing."

He tells with relish the story of a German who went to hire a horse and chaise at a stable in Cambridge. "Shall I put in a buffalo?" inquired the livery-man. "My God! no," cried the astonished German, "put in a horse."

Emerson, I am sure, takes pleasure in relating a characteristic story of Dr. Ripley and a thundershower: "One August afternoon, when I was in the hayfield helping him with his man to rake up his hay, I well remember his pleading, almost reproachful looks at the sky when the thunder gust was coming up to spoil the hay. He raked very fast, then looked at the clouds and said, 'We are in the Lord's hands, mind your rake, George! we are in the Lord's hands,' and seemed to say, 'You know me, the field is mine — Dr. Ripley's — thine own servant.'"

The stories Emerson delighted in were all rich in this quiet humor. I heard of one he used to tell about a man who, when he went to his club at night, often lingered too long over his cups, and came home befuddled in the small hours, and was frequently hauled over the coals by his wife. One night he again came home late, and was greeted with the usual upbraiding in the morning. "It was not late," he said, "it was only one o'clock."

"It was much later than that," said the wife. "It was one o'clock," repeated the man; "I heard it strike one three or four times!"

Another good Emersonian story, though I do not know that he ever heard it, is that of an old woman who had a farm in Indiana near the Michigan line. The line was resurveyed, and the authorities set her farm in Michigan. The old lady protested — she said it was all she could do to stand the winters of Indiana, she could never stand those of Michigan!

Cannot one see a twinkle in Emerson's eve when he quotes his wife as saving that "it is wicked to go to church on Sunday"? Emerson's son records that his father hated to be made to laugh, as he could not command his face well. Hence he evidently notes with approval another remark of his wife's: "A human being should beware how he laughs, for then he shows all his faults." What he thought of the loud, surprising laugh with which Carlyle often ended his bitter sentences, I do not know that he records. Its meaning to Carlyle was evidently, "Oh! what does it all matter?" If Emerson himself did not smile when he wrote the sentence about "a maiden so pure that she exchanged glances only with the stars," his reader, I am sure, will.

Emerson evidently enjoyed such a story as this which was told him by a bishop: There was a dis-

pute in a vestry at Providence between two hot church-members. One said at last, "I should like to know who you are"—

"Who I am?" cried the other, — "who I am! I am a humble Christian, you damned old heathen, you!"

The minister whom he heard say that "nobody enjoyed religion less than ministers, as none enjoyed food so little as cooks," must have provoked the broadest kind of a smile.

Although one of Emerson's central themes in his Journals was his thought about God, or his feeling for the Infinite, he never succeeded in formulating his ideas on the subject and could not say what God is or is not. At the age of twenty-one he wrote in his Journal, "I know that I know next to nothing." A very unusual, but a very promising frame of mind for a young man. "It is not certain that God exists, but that He does not is a most bewildering and improbable Chimera."

A little later he wrote: "The government of God is not a plan — that would be Destiny, [or we may say Calvinism,] it is extempore."

He quotes this from Plotinus: "Of the Unity of God, nothing can be predicated, neither being, nor essence, nor life, for it is above all these."

It was a bold saying of his that "God builds his temple in the heart on the ruins of churches and religion."

"A great deal of God in the universe," he says, "but not available to us until we can make it up into a man."

But if asked, What makes it up into a man? why does it take this form? he would have been hard put to it for an answer.

Persons who assume to know all about God, as if He lived just around the corner, as Matthew Arnold said, will not find much comfort in Emerson's uncertainty and blind groping for adequate expression concerning Him. How can we put the All, the Eternal, in words? How can we define the Infinite without self-contradiction? Our minds are cast in the mould of the finite; our language is fashioned from our dealings with a world of boundaries and limitations and concrete objects and forces. How much can it serve us in dealing with a world of opposite kind-with the Whole, the Immeasurable, the Omnipresent, and Omnipotent? Of what use are our sounding-lines in a bottomless sea? How are we to apply our conceptions of personality to the all-life, to that which transcends all limitations, to that which is everywhere and yet nowhere? Shall we assign a local habitation and a name to the universal energy? As the sunlight puts out our lamp or candle, so our mental lights grow pale in the presence of the Infinite Light. We can deal with the solid bodies on the surface of the earth, but the earth as

a sphere in the heavens baffles us. All our terms of over and under, up and down, east and west, and the like, fail us. You may go westward around the world and return to your own door coming from the east. The circle is a perpetual contradiction, the sphere a surface without boundaries, a mass without weight. When we ascribe weight to the earth, we are trying it by the standards of bodies on its surface — the pull of the earth is the measure of their weight; but the earth itself — what pulls that? Only some larger body can pull that, and the adjustment of the system is such that the centripetal and centrifugal forces balance each other, and the globes float as lightly as any feather.

Emerson said he denied personality to God because it is too little, not too much. If you ascribe personality to God, it is perfectly fair to pester you with questions about Him. Where is He? How long has He been there? What does He do? Personality without place, or form, or substance, or limitation is a contradiction of terms. We are the victims of words. We get a name for a thing and then invent the thing that fits it. All our names for the human faculties, as the will, the reason, the understanding, the imagination, conscience, instincts, and so on, are arbitrary divisions of a whole, to suit our own convenience, like the days of the week, or the seasons of the year. Out

of unity we make diversity for purposes of our practical needs. Thought tends to the one, action to the many. We must have small change for everything in the universe, because our lives are made up of small things. We must break wholes up into fractions, and then seek their common multiple. Only thus can we deal with them. We deal with God by limiting Him and breaking Him up into his attributes, or by conceiving Him under the figure of the Trinity. He is thus less baffling to us. We can handle Him the better. We make a huge man of Him and then try to dodge the consequences of our own limitations.

All these baffling questions pressed hard upon Emerson. He could not do without God in nature, and yet, like most of us, he could not justify himself until he had trimmed and cut away a part of nature. God is the All, but the All is a hard mass to digest. It means hell as well as heaven, demon as well as seraph, geology as well as biology, devolution as well as evolution, earthquake as well as earth tranquillity, cyclones as well as summer breezes, the jungle as well as the household, pain as well as pleasure, death as well as life. How are you to reconcile all these contradictions?

Emerson said that nature was a swamp with flowers and birds on the borders, and terrible things in the interior. Shall we have one God for the fair things, and another God for the terrible things?

"Nature is saturated with deity," he says, the terrific things as the beatific, I suppose. "A great deal of God in the universe," he again says, "but not valuable to us till we can make it up into a man." And when we make it up into a man we have got a true compendium of nature; all the terrific and unholy elements — fangs and poisons and eruptions, sharks and serpents — have each and all contributed something to the make-up. Man is nature incarnated, no better, no worse.

But the majority of mankind who take any interest in the God-question at all will probably always think of the Eternal in terms of man, and endow Him with personality.

One feels like combating some of Emerson's conclusions, or, at least, like discounting them. His refusal to see any value in natural science as such, I think, shows his limitations. "Natural history," he says, "by itself has no value; it is like a single sex; but marry it to human history and it is poetry. Whole Floras, all Linnæus', and Buffon's volumes contain not one line of poetry." Of course he speaks for himself. Natural facts, scientific truth, as such, had no interest to him. One almost feels as if this were idealism gone to seed.

"Shall I say that the use of Natural Science seems merely 'ancillary' to Morals? I would learn the law of the defraction of a ray because

when I understand it, it will illustrate, perhaps suggest, a new truth in ethics." Is the ethical and poetic value of the natural sciences, then, their main or only value to the lay mind? Their technical details, their tables and formulæ and measurements, we may pass by, but the natural truths they disclose are of interest to the healthy mind for their own sake. It is not the ethics of chemical reactions and combinations if there be ethics in them - that arrests our attention, but the light they throw on the problem of how the world was made, and how our own lives go on. The method of Nature in the physical world no doubt affords clues to the method of Nature in the non-physical, or supersensuous world. But apart from that, it is incredible that a mind like Emerson's took no interest in natural knowledge for its own sake. The fact that two visible and inodorous gases like hydrogen and oxygen — one combustible and the other the supporter of combustion — when chemically combined produce water, which extinguishes fire, is intensely interesting as affording us a glimpse of the contradictions and paradoxes that abound everywhere in Nature's methods. If there is any ethics or any poetry in it, let him have it who can extract it. The great facts of nature, such as the sphericity of the cosmic bodies, their circular motions, their mutual interdependence, the unprovable ether in which

they float, the blue dome of the sky, the master currents of the ocean, the primary and the secondary rocks, have an intellectual value, but how they in any way illustrate the moral law is hard to see. The ethics, or right and wrong, of attraction and repulsion, of positive and negative, have no validity outside the human sphere. Might is right in Nature, or, rather, we are outside the standards of right and wrong in her sphere. Scientific knowledge certainly has a poetic side to it, but we do not go to chemistry or to geology or to botany for rules for the conduct of life. We go to these things mainly for the satisfaction which the knowledge of Nature's ways gives us.

So with natural history. For my own part I find the life-histories of the wild creatures about me, their ways of getting on in the world, their joys, their fears, their successes, their failures, their instincts, their intelligence, intensely interesting without any ulterior considerations. I am not looking for ethical or poetic values. I am looking for natural truths. I am less interested in the sermons in stones than I am in the life under the stones. The significance of the metamorphosis of the grub into the butterfly does not escape me, but I am more occupied with the way the caterpillar weaves her cocoon and hangs herself up for the winter than I am in this lesson. I had rather see a worm cast its skin than see a king crowned.

I had rather see Phoebe building her mud nest than the preacher writing his sermon. I had rather see the big moth emerge from her cocoon — fresh and untouched as a coin that moment from the die — than the most fashionable "coming out" that society ever knew. The first song sparrow or bluebird or robin in spring, or the first hepatica or arbutus or violet, or the first clover or pondlily in summer — must we demand some mystic password of them? Must we not love them for their own sake, ere they will seem worthy of our love?

To convert natural facts into metaphysical values, or into moral or poetic values — in short, to make literature out of science — is a high achievement, and is worthy of Emerson at his best, but to claim that this is their sole or main use is to push idealism to the extreme. The poet, the artist, the nature writer not only mixes his colors with his brains, he mixes them with his heart's blood. Hence his pictures attract us without doing violence to nature.

We will not deny Emerson his right to make poetry out of nature; we bless him for the inspiration he has drawn from this source, for his "Woodnotes," his "Humble-Bee," his "Titmouse," his "May-Day," his "Sea-Shore," his "Snow-Storm," and many other poems. But we must "quarrel" with him a little, to use one of his fa-

vorite words, for seeming to undervalue the facts of natural science, as such, and to belittle the works of the natural historian because he does not give us poetry and lessons in morals instead of botany and geology and ornithology, pure and simple. "Everything," he says, "should be treated poetically—law, politics, housekeeping, money. A judge and a banker must drive their craft poetically, as well as a dancer or a scribe. That is, they must exert that higher vision which causes the object to become fluid and plastic." "If you would write a code, or logarithms, or a cook-book, you cannot spare the poetic impulse." "No one will doubt that battles can be fought poetically who reads Plutarch or Las Casas."

We are interested in the wild life around us because the lives of the wild creatures in a measure parallel our own; because they are the partakers of the same bounty of nature that we are; they are fruit of the same biological tree. We are interested in knowing how they get on in the world. Bird and bee, fish and man, are all made of one stuff, are all akin. The evolutionary impulse that brought man, brought his dog and horse. Did Emerson, indeed, only go to nature as he went to the bank, to make a draft upon it? Was his walk barren that brought him no image, no new idea? Was the day wasted that did not add a new line to his verse? He appears to have gone up and down

the land seeking images. He was so firmly persuaded that there is not a passage in the human soul, perhaps not a shade of thought, but has its emblem in nature, that he was ever on the alert to discover these relations of his own mind to the external world. "I see the law of Nature equally exemplified in bar-room and in a saloon of the philosopher. I get instruction and the opportunities of my genius indifferently in all places, companies, and pursuits, so only there be antagonisms."

Emerson thought that science as such bereaved Nature of her charm. To the man of little or no imagination or sensibility to beauty, Nature has no charm anyhow, but if he have these gifts, they will certainly survive scientific knowledge, and be quickened and heightened by it.

After we have learned all that the astronomers can tell us about the midnight heavens, do we look up at the stars with less wonder and awe? After we have learned all that the chemist and the physicist can tell us about matter — its interior activities and its exterior laws and relations — do we admire and marvel less? After the geologist has told us all he has found out about the earth's crust and the rocks, when we quarry our buildingstone, do we plough and hoe and plant its soil with less interest and veneration? No, science as the pursuit of truth causes light to spring out of the abysmal darkness, and enhances our love and

interest in Nature. Is the return of the seasons less welcome because we know the cause? Is an eclipse less startling because it occurs exactly on time? Science bereaves Nature of her dread and fearsomeness, it breaks the spell which the ignorance and credulity of men have cast upon her.

Emerson had little use for science except so far as it yielded him symbols and parables for his superscience. The electric spark did not kindle his interest unless it held an ethical fact for him: chemical reactions were dull affairs unless he could trace their laws in mental reactions. "Read chemistry a little," he said, "and you will quickly see that its laws and experiments will furnish an alphabet or vocabulary for all of your moral observations." He found a lesson in composition in the fact that the diamond and lampblack are the same substance differently arranged. Good writing, he said, is a chemical combination. and not a mechanical mixture. That is not the noblest chemistry that can extract sunshine from cucumbers, but that which can extract "honor from scamps, temperance from sots, energy from beggars, justice from thieves, benevolence from misers."

Though mindful of the birds and flowers and trees and rivers in his walks, it was mainly through his pressing need of figures and symbols for transcendental use. He says, "Whenever you enumer-

ate a physical law, I hear in it a moral law." His final interest was in the moral law. Unless the scientific fact you brought him had some moral value, it made little impression upon him.

He admits he is more interested to know "why the star form is so oft repeated in botany, and why the number five is such a favorite with Nature, than to understand the circulation of the sap and the formation of buds." His insight into Nature, and the prophetic character of his genius, are seen in many ways, among others in his anticipation or poetic forecast of the Darwinian theory of the origin of species, in 1853.

"We want a higher logic to put us in training for the laws of creation. How does the step forward from one species to a higher species of an existing genus take place? The ass is not the parent of the horse; no fish begets a bird. But the concurrence of new conditions necessitates a new object in which these conditions meet and flower. When the hour is struck in onward nature, announcing that all is ready for the birth of higher form and nobler function, not one pair of parents, but the whole consenting system thrills, yearns, and produces. It is a favorable aspect of planets and of elements."

In 1840 he wrote, "The method of advance in Nature is perpetual transformation." In the same year he wrote:

"There is no leap — not a shock of violence throughout nature. Man therefore must be predicted in the first chemical relation exhibited by the first atom. If we had eyes to see it, this bit of quartz would certify us of the necessity that man must exist as inevitably as the cities he has actually built."

X

How fruitful in striking and original men New England was in those days — poets, orators, picturesque characters! In Concord, Emerson, Thoreau, Hawthorne, Alcott; in Boston and Cambridge, Lowell, Longfellow, Norton, Holmes, Higginson, Father Taylor, Bancroft, Everett, and others, with Webster standing out like a Colossus on the New Hampshire granite. This crop of geniuses seems to have been the aftermath of the Revolution. Will our social and industrial revolution bring anything like another such a crop? Will the great World War produce another? Until now too much prosperity, too much mammon, too much "at ease in Zion" has certainly prevailed for another band of great idealists to appear.

Emerson could never keep his eyes off Webster. He was fairly hypnotized by the majesty and power of his mind and personality, and he recurs to him in page after page of his Journal. Webster was of primary stuff like the granite of his native hills, while such a man as Everett was of

the secondary formation, like the sandstone rocks. Emerson was delighted when he learned that Carlyle, "with those devouring eyes, with that portraying hand," had seen Webster. And this is the portrait Carlyle drew of him: "As a Logic-fencer, Advocate, or Parliamentary Hercules, one would incline to back him at first sight against all the extant world. The tanned complexion, that amorphous, crag-like face; the dull black eyes under their precipice of brows, like dull anthracite furnaces, needing only to be blown; the mastiff-mouth, accurately closed:—I have not traced as much of silent Berserkir-rage, that I remember of, in any other man."

Emerson's description and praise and criticism of Webster form some of the most notable pages in his Journal. In 1843, when Webster came to Concord as counsel in a famous case that was tried there, the fact so excited Emerson that he could not sleep. It was like the perturbation of a planet in its orbit when a large body passes near it. Emerson seems to have spent much time at the court-house to hear and study him: "Webster quite fills our little town, and I doubt if I shall get settled down to writing until he has well gone from the county. He is a natural Emperor of men." He adjourned the court every day in true imperial fashion, simply by rising and taking his hat and looking the Judge coolly in the face, whereupon

the Judge "bade the Crier adjourn the Court." But when Emerson finally came to look upon him with the same feeling with which he saw one of those strong Paddies of the railroad, he lost his interest in the trial and did not return to the court in the afternoon. "The green fields on my way home were too fresh and fair, and forbade me to go again."

It was with profound grief that he witnessed the decline of Webster's political career, owing to his truckling to the Southern proslavery element. and to his increasing intemperance. To see the placid, transcendental Emerson "fighting mad," flaring up in holy wrath, read his criticisms of Webster, after Webster's defection - his moral collapse to win the South and his support of the Fugitive Slave Law. This got into Emerson's blood and made him think "daggers and tomahawks." He has this to say of a chance meeting with Webster in Boston, at this period: "I saw Webster on the street —but he was changed since I saw him last - black as a thunder-cloud, and careworn. . . . I did not wonder that he depressed his eyes when he saw me and would not meet my face."

In 1851 he said that some of Webster's late speeches and state papers were like "Hail Columbia" when sung at a slave-auction; then he follows with the terrible remark: "The word *liberty* in

the mouth of Mr. Webster sounds like the word love in the mouth of a courtezan."

The prizes or fancied prizes of politics seem to have corrupted all the great men of that day—Webster, Choate, Foote, Clay, Everett. Their "disgusting obsequiousness" to the South fired Emerson's wrath.

XI

THE orthodox brethren of his time, and probably of our time also, I fancy, could make very little of Emerson's religion. It was the religion of the spirit and not of the utilitarian and matter-of-fact understanding. It identified man with God and made all nature symbolical of the spirit. He was never tired of repeating that all true prayers answered themselves — the spirit which the act of prayer begets in one's self is the answer. Your prayer for humility, for charity, for courage, begets these emotions in the mind. The devout asking comes from a perception of their value. Hence the only real prayers are for spiritual good. We converse with spiritual and invisible things only through the medium of our own hearts. The preliminary attitude of mind that moves us to face in this direction is the blessing. The soldier who, on the eve of battle, prays for courage, has already got what he asks for. Prayer for visible, material good is infidelity to the moral law. God is within you, more your better self than you are. Many

prayers are a rattling of empty husks. Emerson says the wise man in the storm prays God, not for safety from danger, but for deliverance from fear.

Although Emerson broke away from all religious forms, yet was there something back of them that he always respected, as do we all. He relates that one night at a hotel a stranger intruded into his chamber after midnight, claiming a share in it. "But after his lamp had smoked the chamber full, and I had turned round to the wall in despair, the man blew out his lamp, knelt down at his bedside, and made in low whispers a long earnest prayer. Then was the relation entirely changed between us. I fretted no more, but respected and liked him."

Contrasting his own case with that of so many young men who owed their religious training exclusively to Cambridge and other public institutions, he says: "How much happier was my star which rained on me influence of ancestral religion. The depth of the religious sentiment which I knew in my Aunt Mary, imbuing all her genius and derived to her from such hoarded family traditions, from so many godly lives and godly deeds of sainted kindred of Concord, Malden, York, was itself a culture, an education."

XII

A COURSE of ten lectures which he delivered in Boston in February, 1840, on the "Present Age" gave him little pleasure. He could not warm up,

get agitated, and so warm and agitate others: "A cold mechanical preparation for a delivery as decorous, - fine things, pretty things, wise things, - but no arrows, no axes, no nectar, no growling, no transpiercing, no loving, no enchantment." Because he lacked constitutional vigor, he could expend only, say, twenty-one hours on each lecture, if he would be able and ready for the next. If he could only rally the lights and mights of sixty hours into twenty, he said, he should hate himself less. Self-criticism was a notable trait with him. Of self-praise he was never guilty. His critics and enemies rarely said severer things of him than he said of himself. He was almost morbidly conscious of his own defects, both as a man and as a writer. There are many pages of self-criticism in the Journals, but not one of self-praise. In 1842 he writes: "I have not yet adjusted my relation to my fellows on the planet, or to my own work. Always too young, or too old, I do not justify myself; how can I satisfy others?" Later he sighs, "If only I could be set aglow!" He had wished for a professorship, or for a pulpit, much as he reacted from the church - something to give him the stimulus of a stated task. Some friend recommended an Abolition campaign to him: "I doubt not a course in mobs would do me good."

Then he refers to his faults as a writer: "I think I have material enough to serve my country-

men with thought and music, if only it was not scraps. But men do not want handfuls of gold dust but ingots."

Emerson felt his own bardic character, but lamented that he had so few of the bardic gifts. At the age of fifty-nine he says: "I am a bard least of bards. I cannot, like them, make lofty arguments in stately, continuous verse, constraining the rocks, trees, animals, and the periodic stars to say my thoughts,—for that is the gift of great poets; but I am a bard because I stand near them, and apprehend all they utter, and with pure joy hear that which I also would say, and, moreover, I speak interruptedly words and half stanzas which have the like scope and aim:

"What I cannot declare, yet cannot all withhold."

There is certainly no over-valuation in this sentence, made when he was sixty-two: "In the acceptance that my papers find among my thoughtful countrymen, in these days, I cannot help seeing how limited is their reading. If they read only the books that I do, they would not exaggerate so wildly." Two years before that he had said, "I often think I could write a criticism of Emerson that would hit the white."

Emerson was a narrow-chested, steeple-shouldered man with a tendency to pulmonary disease, against which he made a vigorous fight all his days.

He laments his feeble physical equipment in his poem, "Terminus":

"Curse, if thou wilt, thy sires,
Bad husbands of their fires,
Who, when they gave thee breath,
Failed to bequeath
The needful sinew stark as once,
The Baresark marrow to thy bones,
But left a legacy of ebbing veins,
Inconstant heat and nerveless reins, —
Amid the Muses, left thee deaf and dumb,
Amid the gladiators, halt and numb."

And yet, looking back near the end of his life, he says that considering all facts and conditions he thinks he has had triumphant health.

XIII

EMERSON'S wisdom and catholicity of spirit always show in his treatment of the larger concerns of life and conduct. How remarkable is this passage written in Puritanic New England in 1842:

I hear with pleasure that a young girl in the midst of rich, decorous Unitarian friends in Boston is wellnigh persuaded to join the Roman Catholic Church. Her friends, who are also my friends, lamented to me the growth of this inclination. But I told them that I think she is to be greatly congratulated on the event. She has lived in great poverty of events. In form and years a woman, she is still a child, having had no experiences, and although of a fine, liberal, susceptible, expanding nature, has never yet found any worthy object of attention; has not been in love, nor been called out by any taste, except lately by music, and sadly wants adequate objects. In this church, perhaps, she shall find what she needs, in a power to call out the

slumbering religious sentiment. It is unfortunate that the guide who has led her into this path is a young girl of a lively, forcible, but quite external character, who teaches her the historical argument for the Catholic faith. I told A. that I hoped she would not be misled by attaching any importance to that. If the offices of the church attracted her, if its beautiful forms and humane spirit draw her, if St. Augustine and St. Bernard, Jesus and Madonna, cathedral music and masses, then go, for thy dear heart's sake, but do not go out of this icehouse of Unitarianism, all external, into an icehouse again of external. At all events, I charged her to pay no regard to dissenters, but to suck that orange thoroughly.

And this on the Church and the common people written the year before:

The Church aërates my good neighbors and serves them as a somewhat stricter and finer ablution than a clean shirt or a bath or a shampooing. The minister is a functionary and the meeting-house a functionary: they are one and, when they have spent all their week in private and selfish action, the Sunday reminds them of a need they have to stand again in social and public and ideal relations beyond neighborhood, - higher than the town-meeting — to their fellow men. They marry, and the minister who represents this high public. celebrates the fact; their child is baptized, and again they are published by his intervention. One of their family dies, he comes again, and the family go up publicly to the church to be publicised or churched in this official sympathy of mankind. It is all good as far as it goes. It is homage to the Ideal Church, which they have not; which the actual Church so foully misrepresents. But it is better so than nohow. These people have no fine arts, no literature, no great men to boswellize, no fine speculation to entertain their family board

or their solitary toil with. Their talk is of oxen and pigs and hay and corn and apples. Whatsoever liberal aspirations they at any time have, whatsoever spiritual experiences, have looked this way, and the Church is their fact for such things. It has not been discredited in their eyes as books, lectures, or living men of genius have been. It is still to them the accredited symbol of the religious Idea. The Church is not to be defended against any spiritualist clamoring for its reform, but against such as say it is expedient to shut it up and have none, this much may be said. It stands in the history of the present time as a high school for the civility and mansuetude of the people. might prefer the Church of England or of Rome as the medium of those superior ablutions described above. only that I think the Unitarian Church, like the Lyceum, as vet an open and uncommitted organ, free to admit the ministrations of any inspired man that shall pass by: whilst the other churches are committed and will exclude him.)

I should add that, although this is the real account to be given of the church-going of the farmers and villagers, yet it is not known to them, only felt. Do you not suppose that it is some benefit to a young villager who comes out of the woods of New Hampshire to Boston and serves his apprenticeship in a shop, and now opens his own store, to hang up his name in bright gold letters a foot long? His father could not write his name: it is only lately that he could: the name is mean and unknown: now the sun shines on it: all men, all women, fairest eyes read it. It is a fact in the great city. Perhaps he shall be successful and make it wider known: shall leave it greatly brightened to his son. His son may be head of a party: governor of the state: a poet: a powerful thinker: and send the knowledge of this name over the habitable earth. By all these suggestions, he is at least made responsible

and thoughtful by his public relation of a seen and aërated name.

Let him modestly accept those hints of a more beautiful life which he meets with; how to do with few and easily gotten things: but let him seize with enthusiasm the opportunity of doing what he can, for the virtues are natural to each man and the talents are little perfections.

Let him hope infinitely with a patience as large as the sky.

Nothing is so young and untaught as time.

How wise is his saying that we do not turn to the books of the Bible — St. Paul and St. John — to start us on our task, as we do to Marcus Aurelius, or the Lives of the philosophers, or to Plato, or Plutarch, "because the Bible wears black clothes"! "It comes with a certain official claim against which the mind revolts. The Bible has its own nobilities — might well be charming if left simply on its merits, as other books are, but this, 'You must,' 'It is your duty,' in connection with it, repels. "T is like the introduction of martial law into Concord. If you should dot our farms with picket lines, and I could not go or come across lots without a pass, I should resist, or else emigrate. If Concord were as beautiful as Paradise, it would be as detestable to me."

In his essays and letters Emerson gives one the impression of never using the first words that come to mind, nor the second, but the third or fourth; always a sense of selection, of deliberate choice. To use words in a novel way, and impart

a little thrill of surprise, seemed to be his aim. This effort of selection often mars his page. He is rarely carried away by his thought, but he snares or captures it with a word. He does not feel first and think second; he thinks first, and the feeling does not always follow. He dearly loved writing; it was the joy of his life, but it was a conscious intellectual effort. It was often a kind of walking on stilts; his feet are not on the common ground. And yet — and yet — what a power he was, and how precious his contributions!

He says in his Journal, "I have observed long since that to give the thought a full and just expression I must not prematurely utter it." This hesitation, this studied selection robs him of the grace of felicity and spontaneity. The compensation is often a sense of novelty and a thrill of surprise. Moreover, he avoids the commonplace and the cheap and tedious. His product is always a choice one, and is seen to have a quality of its own. No page has more individuality than his, and none is so little like the page of the ordinary professional writer.

'Tis a false note to speak of Emerson's doctrines, as Henry James did. He had no doctrines. He had leading ideas, but he had no system, no argument. It was his attitude of mind and spirit that was significant and original. He would have nothing to do with stereotyped opinions. What

he said to-day might contradict what he said yesterday, or what he might say to-morrow. No matter, the spirit was the same. Truth is a sphere that has opposite poles. Emerson more than any other writer stood for the contradictory character of spiritual truth. Truth is what we make it—what takes the imprint of one's mind; it is not a definite something like gold or silver, it is any statement that fits our mental make-up, that comes home to us. What comes home in one mood may not come home in another.

Emerson had no creed, he had no definite ideas about God. Personality and impersonality might both be affirmed of Absolute Being, and what may not be affirmed of it in our own minds?

The good of such a man as Emerson is not in his doctrines, but in his spirit, his heroic attitude, his consonance with the universal mind. His thought is a tremendous solvent; it digests and renders fluid the hard facts of life and experience.

XIV

EMERSON records in his Journal: "I have been writing and speaking what were once called novelties, for twenty-five or thirty years, and have not now one disciple. Why? Not that what I said was not true; not that it has not found intelligent receivers; but because it did not go from any wish in me to bring men to me, but to themselves.

I delight in driving them from me. What could I do, if they came to me?—they would interrupt and encumber me. This is my boast that I have no school follower. I should account it a measure of the impurity of insight, if it did not create independence."

It is never easy to stray far from the master in high moral, æsthetic, and literary matters and be on the safe side; we are only to try to escape his individual bias, to break over his limitations and "brave the landscape's look" with our own eyes. We are to be more on guard against his affinities, his unconscious attractions and repulsions, than against his ethical and intellectual conclusions, if one may make that distinction, which I know is hazardous business. We readily impose our own limitations upon others and see the world as old when we are old.

Emerson criticized Carlyle because Carlyle was not Emerson, just as Carlyle criticized Emerson because he was not Carlyle. We are all poor beggars in this respect; each of us is the victim of his own demon. Beware of the predilection of the master! When his temperament impels him he is no longer a free man.

We touch Emerson's limitations in his failure to see anything in Hawthorne's work; they had "no inside to them"; "it would take him and Alcott together to make a man"; and, again, in his

rather contemptuous disposal of Poe as "the jingle man" and his verdict upon Shelley as "never a poet"! The intellectual content of Shelley's work is not great; but that he was not a poet, in fact that he was anything else but a poet, though not of the highest order, is contrary to the truth, I think. Limitations like this are not infrequent in Emerson. Yet Emerson was a great critic of men and of books. A highly interesting volume showing him in this character could be compiled from the Journals.

Emerson and Hawthorne were near neighbors for several years. Emerson liked the man better than his books. They once had a good long walk together: they walked to Harvard village and back. occupying a couple of days and walking about twenty miles a day. They had much conversation - talked of Scott and Landor and others. They found the bar-rooms at the inns cold and dull places. The Temperance Society had emptied them. Hawthorne tried to smoke a cigar in one of them, but "was soon out on the piazza." Hawthorne, Emerson said, was more inclined to play Jove than Mercury. It is a pleasing picture — these two men, so unlike, but both typical of New England and both men of a high order of genius, walking in friendly converse along the country roads in the golden September days over seventy years ago. Emerson always regretted that he never succeeded

in "conquering a friendship" with Hawthorne, mainly because they had so few traits in common. To the satisfaction of silent intercourse with men Emerson was clearly a stranger. There must be an interchange of ideas; the feeling of comradeship, the communion of congenial souls was not enough. Hawthorne, shy, silent, rather gloomy, vet there must have been a charm about his mere presence that more than made up for his want of conversation. His silence was golden. Emerson was a transcendental Yankee and was always bent on driving sharp bargains in the interchange of ideas with the persons he met. He did not propose to swap horses or watches or jack-knives, but he would swap ideas with you day in and day out. If you had no ideas to swap, he lost interest in you.

The wisdom of a great creative artist like Hawthorne does not necessarily harden into bright epigrammatic sayings or rules for the conduct of life, and the available intellectual content of his works to the Emersonian type of mind may be small; but his interior, his emotional and imaginative richness may much more than make it up. The scholar, the sayer of things, must always rank below the creator, or the maker of things.

Philosophers contradict themselves like other mortals. Here and there in his Journals Emerson rails against good nature, and says "tomahawks are better." "Why should they call me good-

natured? I, too, like puss, have a tractile claw." And he declares that he likes the sayers of No better than the sayers of Yes, and that he preferred hard clouds, hard expressions, and hard manners. In another mood, or from another point of view, he says of a man, "Let him go into his closet and pray the Divinity to make him so great as to be good-natured." And again, "How great it is to do a little, as, for instance, to deserve the praise of good nature, or of humility, or of punctuality."

Emerson's characterization of himself as always a painter is interesting. People, he said, came to his lectures with expectation that he was to realize the Republic he described, and they ceased to come when they found this reality no nearer: "They mistook me. I am and always was a painter. I paint still with might and main and choose the best subject I can. Many have I seen come and go with false hopes and fears, and dubiously affected by my pictures. But I paint on." "I portray the ideal, not the real," he might have added. He was a poet-seer and not a historian. He was a painter of ideas, as Carlyle was a painter of men and events. Always is there an effort at vivid and artistic expression. If his statement does not kindle the imagination, it falls short of his aim. He visualizes his most subtle and abstract conceptions — sees the idea wedded to its correlative in the actual world. A new figure, a fresh simile

gave him a thrill of pleasure. He went hawking up and down the fields of science, of trade, of agriculture, of nature, seeking them. He thinks in symbols, he paints his visions of the ideal with pigments drawn from the world all about him. To call such men as Emerson and Carlyle painters is only to emphasize their artistic temperaments. Their seriousness, their devotion to high moral and intellectual standards, only lift them, as they do Whitman, out of the world of mere decorative art up to the world of heroic and creative art where art as such does not obtrude itself.

XV

EMERSON wonders why it is that man eating does not attract the imagination or attract the artist: "Why is our diet and table not agreeable to the imagination, whilst all other creatures eat without shame? We paint the bird pecking at fruit, the browsing ox, the lion leaping on his prey, but no painter ever ventured to draw a man eating. The difference seems to consist in the presence or absence of the world at the feast. The diet is base, be it what it may, that is hidden in caves or cellars or houses. . . . Did you ever eat your bread on the top of a mountain, or drink water there? Did you ever camp out with lumbermen or travellers in the prairie? Did you ever eat the poorest rye or oatcake with a beautiful maiden in the wilder-

ness? and did you not find that the mixture of sun and sky with your bread gave it a certain mundane savour and comeliness?"

I do not think Emerson hits on the true explanation of why man feeding is not an attractive subject for the painter. It is not that the diet is base and is hidden in caves and cellars, or that the world is not present at the feast. It is because eating is a purely selfish animal occupation; there is no touch of the noble or the idvllic or the heroic in it. In the act man confesses his animal nature; he is no longer an Emerson, a Dante, a Plato - he is simply a physiological contrivance taking in nutriment. The highest and the lowest are for the moment on the same level. The lady and her maid. the lord and his lackey are all one. Eating your bread on a mountain-top or in the camp of lumbermen or with a beautiful maiden in the wilderness adds a new element. Here the picture has all nature for a background and the imagination is moved. The rve and the oatcake now become a kind of heavenly manna, or, as Fitzgerald has it, under such conditions the wilderness is Paradise enow. The simple act of feeding does not now engross the attention. Associate with the act of eating any worthy or noble idea, and it is at once lifted to a higher level. A mother feeding her child, a cook passing food to the tramp at the door or to other hungry and forlorn wayfarers, or soldiers

pausing to eat their rations in the field, or fishermen beside the stream, or the haymakers with their lunch under a tree — in all such incidents there are pictorial elements because the least part of it all to the looker-on is the act of eating.

In Da Vinci's "Last Supper" the mere animal act of taking food plays no part; the mind is occupied with higher and more significant things. A suggestion of wine or of fruit in a painting may be agreeable, but from a suggestion of the kitchen and the cook we turn away. The incident of some of Washington's officers during the Revolution entertaining some British officers (an historical fact) on baked potatoes and salt would appeal to the artistic imagination. All the planting and reaping of the farmers is suggestive of our animal wants. as is so much of our whole industrial activity: but art looks kindly upon much of it, shows us more or less in partnership with primal energies. People surrounding a table after all signs of the dinner have been removed hold the elements of an agreeable picture, because that suggests conversation and social intercourse — a feast of reason and a flow of soul. We are no longer animals; we have moved up many degrees higher in the scale of human values.

Emerson's deep love and admiration for Carlyle come out many times in the Journals. No other literary man of his times moved and impressed him so profoundly. Their correspondence, which

lasted upwards of forty years, is the most valuable correspondence known to me in English literature. It is a history of the growth and development of these two remarkable minds.

I lately reread the Correspondence, mainly to bring my mind again in contact with these noble spirits, so much more exalted than any in our own time, but partly to see what new light the letters threw upon the lives of these two men.

There is little of the character of intimate and friendly letters in these remarkable documents. It is not Dear Tom or Dear Waldo. It is Dear Emerson or Dear Carlyle. They are not letters, they are epistles, like Paul's Epistle to the Ephesians, or to the Thessalonians, or to the Romans. Each of them contains the fragments of a gospel that both were preaching, each in his own way, but at bottom the same - the beauty and majesty of the moral law. Let the heavens fall, the moral law and our duty to God and man will stand. These two men, so different in character and temperament, were instantly drawn together by that magnet - the moral sentiment. Carlyle's works were occupied almost entirely with men with history, biography, political events, and government; Emerson's with ideas, nature, and poetry: yet the bed rock in each was the same. Both preached an evangel, but how different!

Emerson makes a note of the days on which he

received a letter from, or wrote one to, his great Scottish friend. Both were important events with him. It is evident that Emerson makes more of an effort to write his best in these letters than does Carlyle. Carlyle tosses his off with more ease and unconscious mastery. The exchange is always in favor of the Scot. Carlyle was, of course, the more prodigious personality, and had the advantage in the richness and venerableness of the Old World setting. But Emerson did not hesitate to discount him in his letters and in his Journals, very wisely sometimes, not so wisely at others.

"O Carlyle, the merit of glass is not to be seen, but to be seen through; but every crystal and lamina of the Carlyle glass is visible." Of course Carlyle might reply that stained glass has other merits than transparency, or he might ask: Why should an author's style be compared to glass anyhow, since it is impossible to dissociate it from the matter of his discourse? It is not merely to reveal truth; it is also to enhance its beauty. There is the charm and witchery of style, as in Emerson's own best pages, as well as the worth of the subject-matter. Is it not true that in the description of any natural object or scene or event we want something more than to see it through a perfectly transparent medium? We want the added charm or illusion of the writer's own way of seeing it, the hue of his own spirit.

I think we may admit all this—doubtless Emerson would admit it—and yet urge that Carlyle's style had many faults of the kind Emerson indicated. It thrusts itself too much upon the reader's attention. His prose is at the best, as in the "Life of Stirling," when it is most transparent and freest from mannerisms. Carlyle's manner at its best is very pleasing; at its worst it becomes a wearisome mannerism. When a writer's style gets into a rut his reader is not happy. Ease, flexibility, transparency, though it be colored transparency, are among the merits we want.

The most just and penetrating thing Emerson ever said about Carlyle is recorded in his Journal in 1847: "In Carlyle, as in Byron, one is much more struck with the rhetoric than with the matter. He has manly superiority rather than intellectuality, and so makes good hard hits all the time. There is more character than intellect in every sentence, herein strongly resembling Samuel Johnson." Criticism like this carries the force and conviction of a scientific analysis.

The Journals abound in similar illuminating bits of criticism directed to nearly all the more noted authors of English literature, past and present. In science we do want an absolutely colorless, transparent medium, but in literature the personality of the writer is everything. The born writer gives us facts and ideas steeped in his own quality as a

man. Take out of Carlyle's works, or out of Emerson's, or out of Arnold's, the savor of the man's inborn quality — the savor of that which acts over and above his will — and we have robbed them of their distinctive quality. Literature is always truth of some sort, plus a man. No one knew this better than Emerson himself. Another remark of Emerson's, made when he was twenty-seven years old, has high literary value:

"There is no beauty in words except in their collocation."

It is not beautiful words that make beautiful poetry, or beautiful prose, but ordinary words beautifully arranged. The writer who hopes by fine language to invoke fine ideas is asking the tailor to turn him out a fine man. First get your great idea, and you will find it is already fitly clothed. The image of the clothes in this connection is, of course, a very inadequate and misleading one, since language is the thought or its vital integument, and not merely its garment. We often praise a writer for his choice of words, and Emerson himself says in the same paragraph from which I quote the above: "No man can write well who thinks there is no choice of words for him." There is always a right word and every other than that is wrong. There is always the best word, or the best succession of words to give force and vividness to the idea. All painters use the same colors,

all musicians use the same notes, all sculptors use the same marble, all architects use the same materials and all writers use essentially the same words, their arrangement and combination alone making the difference in the various products. Nature uses the same elements in her endless variety of living things; their different arrangement and combinations, and some interior necessity which we have to call the animating principle, is the secret of the individuality of each.

Of course we think in words or images, and no man can tell which is first, or if there is any first in such matters — the thought or the word — any more than the biochemist can tell us which is first in the living body, the carbon, oxygen, nitrogen, and so on, or the living force that weaves itself a corporeal garment out of these elements.

XVI

EMERSON hungered for the quintessence of things, their last concentrated, intensified meanings, for the pith and marrow of men and events, and not for their body and bulk. He wanted the ottar of roses and not a rose garden, the diamond and not a mountain of carbon. This bent gives a peculiar beauty and stimulus to his writings, while at the same time it makes the reader crave a little more body and substance. The succulent leaf and stalk of certain garden vegetables is better to one's lik-

ing than the more pungent seed. If Emerson could only have given us the essence of Father Taylor's copious, eloquent, flesh-and-blood discourses, how it would have delighted us! or if be could only have got the silver out of Alcott's bewitching moonshine — that would have been worth while!

But why wish Emerson had been some other than he was? He was at least the quintessence of New England Puritanism, its last and deepest meaning and result, lifted into the regions of ethics and æsthetics.

II

FLIES IN AMBER

It has been the fashion among our younger writers to speak slightingly and flippantly of Emerson, referring to him as outworn, and as the apostle of the obvious. This view is more discreditable to the young people than is their criticism damaging to Emerson. It can make little difference to Emerson's fame, but it would be much more becoming in our young writers to garland his name with flowers than to utter these harsh verdicts.

It is undoubtedly true that Emerson entered into and influenced the lives of more choice spirits, both men and women, during the past generation than did any other American author. Whether he still does so would be interesting to know. We who have felt his tonic and inspiring influence can but hope so. Yet how impossible he seems in times like these in which we live, when the stars of the highest heaven of the spirit which illumine his page are so obscured or blotted out by the dust and the fog of our hurrying, materialistic age! Try to think of Emerson spending a winter going about the Western States reading to miscellaneous audiences essays like those that now make up

his later volumes. What chance would he stand, even in university towns, as against the "movies" (a word so ugly I hesitate to write it) in the next street?

I once defended Emerson against a criticism of Matthew Arnold's. It is true, as Arnold says, that Emerson is not a great writer, except on rare occasions. Now and then, especially in his earlier essays, there is logical texture and cohesion in his pages; development, evolution, growth; one thing follows another naturally, and each paragraph follows from what went before. But most of his later writings are a kind of patchwork; unrelated ideas are in juxtaposition; the incongruities are startling. All those chapters, I suppose, were read as lectures to miscellaneous audiences in which the attention soon became tired or blunted if required to follow a closely reasoned argument. Pictures and parables and startling affirmations suited better. Emerson did not stoop to his audience: there was no condescension in him. The last time I heard him, which was in Washington in the early seventies, his theme was "Manners," and much of it passed over the heads of his audience.

Certain of Emerson's works must strike the average reader, when he first looks into them, as a curious medley of sense and wild extravagance, utterly lacking in the logical sequence of the best

prose, and often verging on the futile and the absurd. Yet if one does not get discouraged, one will soon see running through them veins of the purest gold of the spirit, and insight into Nature's ways, that redeem and more than redeem them.

I recall that when, as a young man, I looked into them the first time, I could make nothing of them. I was fresh from reading the standard essayists and philosophers of English literature — Addison, Steele, Cowley, Johnson, Locke — and the poems of Pope, Young, and Cowper, all of ethical import and value, and sometimes didactic, but never mystical and transcendental, and the plunge into Emerson was a leap into a strange world. But a few years later, when I opened his essays again, they were like spring-water to parched lips. Now, in my old age, I go back to him with a half-sad pleasure, as one goes back to the scenes of one's youth.

Emerson taught us a mingled poetic and prophetic way of looking at things that stays with us. The talented English woman Anne Gilchrist said we had outgrown Emerson; had absorbed all he had to give us; and were leaving him behind. Of course he was always a teacher and preacher, in the thrall of his priestly inheritance, and to that extent we leave him behind as we do not leave behind works of pure literature.

As to continuity, some of his essays have much more of it than others. In his "Nature" the

theme is unfolded, there is growth and evolution; and his first and second series of Essays likewise show it. The essays on "Character," on "Self-Reliance," on the "Over-Soul," meet the requirements of sound prose. And if there is any sounder prose than can be found in his "Nature," or in his "English Traits," or in his historical and biographical addresses, I do not know where to find it. How flat and commonplace seem the works of some of the masters of prose to whom Arnold alludes — Cicero, Voltaire, Addison, Swift — compared with those of Emerson! A difference like that between the prismatic hues of raindrops suspended from a twig or a trellis in the sunlight and the water in the spring or the brook.

But in Emerson's later work there is, as geologists say, nonconformity between the strata which make up his paragraphs. There is only juxtaposition. Among his later papers the one on "Wealth" flows along much more than the one on "Fate." Emerson believed in wealth. Poverty did not attract him. It was not suited to his cast of mind. Poverty was humiliating. Emerson accumulated a fortune, and it added to his self-respect. Thoreau's pride in his poverty must have made Emerson shiver.

Although Arnold refused to see in Emerson a great writer, he did admit that he was eminent as the "friend and aider of those who would live in

the spirit"; but Arnold apparently overlooked the fact that, devoid of the merit of good literature, no man's writings could have high spiritual value. Strip the Bible of its excellence as literature, and you have let out its life-blood. Literature is not a varnish or a polish. It is not a wardrobe. It is the result of a vital, imaginative relation of the man to his subject. And Emerson's subject-matter at its best always partakes of the texture of his own mind. It is admitted that there are times when his writing lacks organization, - the vital ties, - when his rhetoric is more like a rockinghorse or a merry-go-round than like the real thing. But there are few writers who do not mark time now and then, and Emerson is no exception; and I contend that at his best his work has the sequence and evolution of all great prose. And vet, let me say that if Emerson's power and influence depended upon his logic, he would be easily disposed of. Fortunately they do not. They depend, let me repeat, upon his spiritual power and insight, and the minor defects I am pointing out are only like flies in amber.

He thought in images more strictly than any other contemporary writer, and was often desperately hard-put to it to make his thought wed his image. He confessed that he did not know how to argue, and that he could only say what he saw. But he had spiritual vision; we cannot deny this, though

we do deny him logical penetration. I doubt if there ever was a writer of such wide and lasting influence as Emerson, in whom the logical sense was so feeble and shadowy. He had in this respect a feminine instead of a masculine mind, an intuitional instead of a reasoning one. It made up in audacious, often extravagant, affirmations what it lacked in syllogistic strength. The logical mind, with its sense of fitness and proportion, does not strain or overstrain the thread that knits the parts together. It does not jump to conclusions, but reaches them step by step. The flesh and blood of feeling and sentiment may clothe the obscure framework of logic, but the logic is there all the same. Emerson's mind was as devoid of logical sense as are our remembered dreams, or as Christian Science is of science. He said that truth ceased to be such when polemically stated. Occasionally he amplifies and unfolds an idea, as in the essays already mentioned. but generally his argument is a rope of sand. Its strength is the strength of the separate particles. He is perpetually hooking things together that do not go together. It is like putting an apple on a pumpkin vine, or an acorn on a hickory. "A club foot and a club wit." "Why should we fear," he says, "to be crushed by the same elements - we who are made up of the same elements?" But were we void of fear, we should be crushed much oftener than we are. The electricity in our bodies

does not prevent us from being struck by lightning, nor the fluids in our bodies prevent the waters from drowning us, nor the carbon in our bodies prevent carbon dioxide from poisoning us.

One of Emerson's faults as a writer arose from his fierce hunger for analogy. "I would rather have a good symbol of my thought," he confesses, "than the suffrage of Kant or of Plato." "All thinking is analogizing, and it is the use of life to learn metonymy." His passion for analogy betrays him here and there in his Journals, as in this passage: "The water we wash with never speaks of itself, nor does fire or wind or tree. Neither does a noble natural man," and so forth. If water and fire and wind and tree were in the habit of talking of anything else, this kind of a comparison would not seem so spurious.

A false note in rhetoric like the above you will find in Emerson oftener than a false note in taste. I find but one such in the Journals: "As soon as a man gets his suction-hose down into the great deep, he belongs to no age, but is an eternal man." That I call an ignoble image, and one cannot conceive of Emerson himself printing such a passage.

We hear it said that Whittier is the typical poet of New England. It may be so, but Emerson is much the greater poet. Emerson is a poet of the world, while Whittier's work is hardly known abroad at all. Emerson is known wherever the

English language is spoken. Not that Emerson is in any sense a popular poet, such as, for example, Burns or Byron, but he is the poet of the choice few, of those who seek poetry that has some intellectual or spiritual content. Whittier wrote many happy descriptions of New England scenes and seasons. "The Tent on the Beach" and "Snow-Bound" come readily to mind: "The Playmate" is a sweet poem, full of tender and human affection, but not a great poem. Whittier had no profundity. Is not a Quaker poet necessarily narrow? Whittier gave voice to the New England detestation of slavery, but by no means so forcibly and profoundly as did Emerson. had a theology, but not a philosophy. I wonder if his poems are still read.

In his chapter called "Considerations by the Way," Emerson strikes this curious false note in his rhetoric: "We have a right to be here or we should not be here. We have the same right to be here that Cape Cod and Sandy Hook have to be there." As if Cape Cod or Cape Horn or Sandy Hook had any "rights"! This comparison of man with inanimate things occurs in both Emerson and Thoreau. Thoreau sins in this way at least once when he talks of the Attic wit of burning thorns and briars. There is a similar false note in such a careful writer as Dean Swift. He says to his young poet, "You are ever to try a good

poem as you would a sound pipkin, and if it rings well upon the knuckle, be sure there is no flaw in it." Whitman compares himself with an inanimate thing in the line:

"I reckon I behave no prouder than the level I plant my house by."

But he claims no moral or human attributes or rights for his level; it simply acts in obedience to the principle it embodies — the law of gravitation.

The lecturer "gets away" with such things better than the writer. An audience is not critical about such matters, but the reader takes note of them. Mosaics will do on the platform, or in the pulpit, but will not bear the nearer view of the study.

The incongruities of Emerson are seen in such passages as this: "Each plant has its parasites, and each created thing its lover and poet," as if there were any relation between the two clauses of this sentence — between parasites and lovers and poets! As if one should say, "Woodchucks are often alive with fleas, and our fruit trees bloom in May."

Emerson was so emboldened by what had been achieved through the mastery of the earth's forces that he was led to say that "a wise geology shall yet make the earthquake harmless, and the volcano an agricultural resource." But this seems expecting too much. We have harnessed the

lightnings, but the earthquake is too deep and too mighty for us. It is a steed upon which we cannot lay our hands. The volcano we may draw upon for heat and steam, as we do upon the winds and streams for power, but it is utterly beyond our control. The bending of the earth's crust beneath the great atmospheric waves is something we cannot bridle. The tides by sea as by land are beyond us.

Emerson had the mind of the prophet and the seer, and was given to bold affirmations. The old Biblical distinction between the scribes and the man who speaks with authority still holds. We may say of all other New England essayists and poets — Lowell, Whipple, Tuckerman, Holmes, Hillard, Whittier, Longfellow — that they are scribes only. Emerson alone speaks as one having authority — the authority of the spirit. "Thus saith the Lord" — it is this tone that gives him his authority the world over.

I never tire of those heroic lines of his in which he sounds a battle-cry to the spirit:

"Though love repine, and reason chafe,
There came a voice without reply,—
"T is man's perdition to be safe,
When for the truth he ought to die."

The last time I saw Emerson was at the Holmes seventieth-birthday breakfast in 1879. The serious break in his health had resulted in a marked aphasia, so that he could not speak the name of his nearest friend, nor answer the simplest question.

Yet he was as serene as ever. Let the heavens fall — what matters it to me? his look seemed to say.

Emerson's face had in it more of what we call the divine than had that of any other author of his time — that wonderful, kindly, wise smile — the smile of the soul — not merely the smile of good nature, but the smile of spiritual welcome and hospitality.

Emerson had quality. A good Emersonian will recognize any passage from the Sage in a book of quotations, even if no name is appended.

We speak of Emerson as outgrown, yet only yesterday I saw in J. Arthur Thomson's recent Gifford Lectures on "The System of Animate Nature," repeated quotations from Emerson, mainly from his poetry. I think he is no more likely to be outgrown than are Wordsworth and Arnold. Yet I do not set the same value upon his poetry that I do upon that of Wordsworth at his best.

Emerson is the last man we should expect to be guilty of misinterpreting Nature, yet he does so at times. He does so in this passage: "If Nature wants a thumb, she makes it at the cost of the arms and legs." As if the arm were weaker or less efficient because of the thumb. What would man's power be as a tool-using animal without his strong, opposable thumb? His grasp would be gone.

He says truly that the gruesome, the disgusting, the repellent are not fit subjects for cabinet pictures. The "sacred subjects" to which he objects probably refer to the Crucifixion—the nails through the hands and feet, and the crown of thorns. But to jump from that fact to the assertion that Nature covers up the skeleton on the same grounds, is absurd. Do not all vertebrates require an osseous system? In the radiates and articulates she puts the bony system on the outside, but when she comes to her backbone animals, she perforce puts her osseous system beneath. She weaves her tissues and integuments of flesh and skin and hair over it, not to hide it, but to use it. Would you have a man like a jellyfish?

The same want of logic marks Carlyle's mind when he says: "The drop by continually falling bores its way through the hardest rock. The hasty torrent rushes over it with hideous uproar, and leaves no trace behind." But give the "hasty torrent" the same time you give the drop, and see what it will do to the rock!

Emerson says, "A little more or a little less does not signify anything." But it does signify in this world of material things. Is one man as impressive as an army, one tree as impressive as a forest? "Scoop a little water in the hollow of your palm; take up a handful of shore sand; well, these are the elements. What is the beach but

acres of sand? what is the ocean but cubic miles of water? A little more or a little less signifies nothing." It is the mass that does impress us, as Niagara does, as the midnight sky does. It is not as parts of this "astonishing astronomy," or as a "part of the round globe under the optical sky" - we do not think of that, but the imagination is moved by the vast sweep of the ocean and its abysmal depths, and its ceaseless rocking. In some cases we see the All in the little: the law that spheres a tear spheres a globe. That Nature is seen in leasts is an old Latin maxim. The soap bubble explains the rainbow. Steam from the boiling kettle gave Watt the key to the steam engine; but a tumbler of water throws no light on the sea, though its sweating may help explain the rain.

Emerson quotes Goethe as saying, "The beautiful is a manifestation of secret laws of nature which, but for this appearance, had been forever concealed from us." As if beauty were an objective reality instead of a subjective experience! As if it were something out there in the landscape that you may gather your arms full of and bring in! If you are an artist, you may bring in your vision of it, pass it through your own mind, and thus embalm and preserve the beauty. Or if you are a poet, you may have a similar experience and reproduce it, humanized, in a poem. But the beauty is always a distilled and re-created, or, shall we

say, an incarnated beauty—a tangible and measurable something, like moisture in the air, or sugar in the trees, or quartz in the rocks. There is, and can be, no "science of beauty." Beauty, like truth, is an experience of the mind. It is the emotion you feel when in health you look from your door or window of a May morning. If you are ill, or oppressed with grief, or worried, you will hardly experience the emotion of the beautiful.

Emerson said he was warned by the fate of many philosophers not to attempt a definition of beauty. But in trying to describe it and characterize it he ran the same risk. "We ascribe beauty to that which is simple," he said: "which has no superfluous parts: which exactly answers its end: which stands related to all things; which is the mean of many extremes." Is a boot-jack beautiful? Is a crow-bar? Yet these are simple, they have no superfluous parts, they exactly serve their ends, they stand related to all things through the laws of chemistry and physics. A flower is beautiful, a shell on the beach is beautiful, a tree in full leaf. or in its winter nudity, is beautiful; but these things are not very simple. Complex things may be beautiful also. A village church may be beautiful no less than a Gothic cathedral. Emerson was himself a beautiful writer, a beautiful character, and his works are a priceless addition to literature.

"Go out of the house to see the moon," says Emerson, "and it is mere tinsel; it will not please as when its light shines upon your necessary journey." This is not true in my experience. The stars do not become mere tinsel, do they, when we go out to look at the overwhelming spectacle? Neither does the moon. Is it not a delight in itself to look at the full moon—

"The vitreous pour of the full moon, just tinged with blue," as Whitman says?

"The moon doth look round her with delight when the heavens are bare,"

says Wordsworth, and equally with delight do we regard the spectacle. The busy farmer in the fields rarely sees the beauty of Nature. He has not the necessary detachment. Put him behind his team and plough in the spring and he makes a pleasing picture to look upon, but the mind must be open to take in the beauty of Nature.

Of course Emerson is only emphasizing the fact of the beauty of utility, of the things we do, of the buildings we put up for use, and not merely for show. A hut, a log cabin in a clearing, a farmer's unpainted barn, all have elements of beauty. A man leading a horse to water, or foddering his cattle from a stack in a snow-covered field, or following his plough, is always pleasing. Every day I pass along a road by a wealthy man's estate and

see a very elaborate stone wall of cobblestones and cement which marks the boundary of his estate on the highway. The wall does not bend and undulate with the inequalities of the ground; its top is as level as a foundation wall: it is an offense to every passer-by; it has none of the simplicity that should mark a division wall; it is studied and elaborate, and courts your admiration. How much more pleasing a rough wall of field stone, or "wild stone," as our old wall-layer put it, with which the farmer separates his fields! No thought of looks, but only of utility. The showy, the highly ornate castle which the multimillionaire builds on his estate — would an artist ever want to put one of them in his picture? Beauty is likely to flee when we make a dead set at her.

Emerson's exaggerations are sometimes so excessive as to be simply amusing, as, when speaking of the feats of the imagination, he says, "My boots and chair and candlestick are fairies in disguise, meteors and constellations." The baseball, revolving as it flies, may suggest the orbs, or your girdle suggest the equator, or the wiping of your face on a towel suggest the absorption of the rain by the soil; but does the blacking of your shoes suggest anything celestial? Hinges and levers and fulcrums are significant, but one's old hat, or old boots, have not much poetic significance. An elm tree may suggest a cathedral, or a shell sug-

gest the rainbow, or the sparkling frost suggest diamonds, or the thread that holds the beads symbolize the law that strings the spheres, but a button is a button, a shoestring a shoestring, and a spade a spade, and nothing more.

I cherish and revere the name of Emerson so profoundly, and owe him such a debt, that it seems, after all, a pity to point out the flaws in his precious amber.

Let us keep alive the Emersonian memories: that such a man has lived and wrought among us. Let us teach our children his brave and heroic words, and plant our lives upon as secure an ethical foundation as he did. Let us make pilgrimages to Concord, and stand with uncovered heads beneath the pine tree where his ashes rest. He left us an estate in the fair land of the Ideal. He bequeathed us treasures that thieves cannot break through and steal, nor time corrupt, nor rust nor moth destroy.¹

¹At the onset of the author's last illness he attempted to rearrange and improve this essay, but was even then unequal to it, and, after a little shifting and editing, gave it up. "Do what you can with it," he said; and when I asked him if he could not add a few words to close it, he sat up in bed, and wrote the closing sentences, which proved to be the last he ever penned. — C. B.

III

ANOTHER WORD ON THOREAU

I

AFTER Emerson, the name of no New England man of letters keeps greener and fresher than that of Thoreau. A severe censor of his countrymen, and with few elements of popularity, yet the quality of his thought, the sincerity of his life, and the nearness and perennial interest of his themes, as well as his rare powers of literary expression, win recruits from each generation of readers. He does not grow stale any more than Walden Pond itself grows stale. He is an obstinate fact there in New England life and literature, and at the end of his first centennial his fame is more alive than ever.

Thoreau was born in Concord, Massachusetts, July, 1817, and passed most of his life of forty-five years in his native town, minding his own business, as he would say, which consisted, for the most part, in spending at least the half of each day in the open air, winter and summer, rain and shine, and in keeping tab upon all the doings of wild nature about him and recording his observations in his Journal.

The two race strains that met in Thoreau, the Scottish and the French, come out strongly in his life and character. To the French he owes his vivacity, his lucidity, his sense of style, and his passion for the wild; for the French, with all their urbanity and love of art, turn to nature very easilv. To the Scot he is indebted more for his character than for his intellect. From this source come his contrariness, his combativeness, his grudging acquiescence, and his pronounced mysticism. Thence also comes his genius for solitude. man who in his cabin in the woods has a good deal of company "especially the mornings when nobody calls," is French only in the felicity of his expression. But there is much in Thoreau that is neither Gallic nor Scottish, but pure Thoreau.

The most point-blank and authoritative criticism within my knowledge that Thoreau has received at the hands of his countrymen came from the pen of Lowell about 1864, and was included in "My Study Windows." It has all the professional smartness and scholarly qualities which usually characterize Lowell's critical essays. Thoreau was vulnerable, both as an observer and as a literary craftsman, and Lowell lets him off pretty easily — too easily — on both counts.

The flaws he found in his nature lore were very inconsiderable: "Till he built his Walden shaek he did not know that the hickory grew near Con-

cord. Till he went to Maine he had never seen phosphorescent wood — a phenomenon early familiar to most country boys. At forty he spoke of the seeding [i. e., flowering]¹ of the pine as a new discovery, though one should have thought that its gold-dust of blowing pollen might have earlier caught his eye."

As regards his literary craftsmanship, Lowell charges him only with having revived the age of concetti while he fancied himself going back to a preclassical nature, basing the charge on such a far-fetched comparison as that in which Thoreau declares his preference for "the dry wit of decayed cranberry-vines and the fresh Attic salt of the moss-beds" over the wit of the Greek sages as it comes to us in the "Banquet" of Xenophon—a kind of perversity of comparison all too frequent with Thoreau.

But though Lowell lets Thoreau off easily on these specific counts, he more than makes up by his sweeping criticism, on more general grounds, of his life and character. Here one feels that he overdoes the matter.

It is not true, in the sense which Lowell implies, that Thoreau's whole life was a search for the doctor. It was such a search in no other sense than that we are all in search of the doctor when we take

¹See "Walking" in *Excursions*. He was under thirty-three when he made these observations (June, 1850).

a walk, or flee to the mountains or to the seashore, or seek to bring our minds and spirits in contact with "Nature's primal sanities." His search for the doctor turns out to be an escape from the conditions that make a doctor necessary. His wonderful activity, those long walks in all weathers, in all seasons, by night as well as by day, drenched by rain and chilled by frost, suggest a reckless kind of health. A doctor might wisely have cautioned him against such exposures. Nor was Thoreau a valetudinarian in his physical, moral, or intellectual fiber.

It is not true, as Lowell charges, that it was his indolence that stood in the way of his taking part in the industrial activities in which his friends and neighbors engaged, or that it was his lack of persistence and purpose that hindered him. It is not true that he was poor because he looked upon money as an unmixed evil. Thoreau's purpose was like adamant, and his industry in his own proper pursuits was tireless. He knew the true value of money, and he knew also that the best things in life are to be had without money and without price. When he had need of money, he earned it. He turned his hand to many things - landsurveying, lecturing, magazine-writing, growing white beans, doing odd jobs at carpentering, whitewashing, fence-building, plastering, and bricklaying.

Lowell's criticism amounts almost to a diatribe. He was naturally antagonistic to the Thoreau type of mind. Coming from a man near his own age, and a neighbor, Thoreau's criticism of life was an affront to the smug respectability and scholarly attainments of the class to which Lowell belonged. Thoreau went his own way, with an air of defiance and contempt which, no doubt, his contemporaries were more inclined to resent than we are at our distance. Shall this man in his hut on the shores of Walden Pond assume to lay down the law and the gospel to his elders and betters, and pass unrebuked, no matter on what intimate terms he claims to be with the gods of the woods and mountains? This seems to be Lowell's spirit.

"Thoreau's experiment," says Lowell, "actually presupposed all that complicated civilization which it theoretically abjured. He squatted on another man's land; he borrows an axe; his boards, his nails, his bricks, his mortar, his books, his lamp, his fish-hooks, his plough, his hoe, all turn state's evidence against him as an accomplice in the sin of that artificial civilization which rendered it possible that such a person as Henry D. Thoreau should exist at all." Very clever, but what of it? Of course Thoreau was a product of the civilization he decried. He was a product of his country and his times. He was born in Concord and early came under the influence of Emerson; he was a graduate

of Harvard University and all his life availed himself, more or less, of the accumulated benefits of state and social organizations. When he took a train to Boston, or dropped a letter in, or received one through, the post office, or read a book, or visited a library, or looked in a newspaper, he was a sharer in these benefits. He made no claims to living independently of the rest of mankind. His only aim in his Walden experiment was to reduce life to its lowest terms, to drive it into a corner, as he said. and question and cross-question it, and see, if he could, what it really meant. And he probably came as near cornering it there in his hut on Walden Pond as any man ever did anywhere, certainly in a way more pleasing to contemplate than did the old hermits in the desert, or than did Diogenes in his tub, though Lowell says the tub of the old Greek had a sounder bottom.

Lowell seemed to discredit Thoreau by attacking his philosophy and pointing out the contradictions and inconsistencies of a man who abjures the civilization of which he is the product, overlooking the fact that man's theories and speculations may be very wide of the truth as we view it, and yet his life be noble and inspiring. Now Thoreau did not give us a philosophy, but a life. He gave us fresh and beautiful literature, he gave us our first and probably only nature classic, he gave us an example of plain living and high think-

ing that is always in season, and he took upon himself that kind of noble poverty that carries the suggestion of wealth of soul.

No matter how much Thoreau abjured our civilization, he certainly made good use of the weapons it gave him. No matter whose lands he squatted on, or whose saw he borrowed, or to whom or what he was indebted for the tools and utensils that made his life at Walden possible. - these things were the mere accidents of his environment. - he left a record of his life and thoughts there which is a precious heritage to his countrymen. The best in his books ranks with the best in the literature of his times. One could wish that he had shown more tolerance for the things other men live for, but this must not make us overlook the value of the things he himself lived for, though with some of his readers his intolerance doubtless has this effect. We cannot all take to the woods and swamps as Thoreau did. He had a genius for that kind of a life: the most of us must stick to our farms and desks and shops and professions.

Thoreau retired to Walden for study and contemplation, and because, as he said, he had a little private business with himself. He found that by working about six weeks in the year he could meet all his living expenses, and then have all his winter and most of his summers free and clear for study. He found that to maintain one's self on this earth

is not a hardship, but a pastime, if one will live simply and wisely. He said, "It is not necessary that a man should earn his living by the sweat of his brow unless he sweats easier than I do." Was not his experiment worth while?

"Walden" is a wonderful and delightful piece of brag, but it is much more than that. It is literature; it is a Gospel of the Wild. It made a small Massachusetts pond famous, and the Mecca of many devout pilgrims.

Lowell says that Thoreau had no humor, but there are many pages in "Walden" that are steeped in a quiet but most delicious humor. His humor brings that inward smile which is the badge of art's felicity. His "Bean-Field" is full of it. I venture to say that never before had a hermit so much fun with a field of white beans.

Both by training and by temperament Lowell was disqualified from entering into Thoreau's character and aims. Lowell's passion for books and academic accomplishments was as strong as was Thoreau's passion for the wild and for the religion of Nature. When Lowell went to Nature for a theme, as in his "Good Word for Winter," his "My Garden Acquaintance," and the "Moosehead Journal," his use of it was mainly to unlock the treasures of his literary and scholarly attainments; he bedecked and bejeweled Nature with gems from all the literatures of the world. In the "Journal"

we get more of the flavor of libraries than of the Maine woods and waters. No reader of Lowell can doubt that he was a nature-lover, nor can he doubt that he loved books and libraries more all his nature writings the poverty of the substance and the wealth of the treatment are striking. final truth about Lowell's contributions is that his mind was essentially a prose mind, even when he writes poetry. Emerson said justly that his tone was always that of prose. What is his "Cathedral" but versified prose? Like so many cultivated men, he showed a talent for poetry, but not genius; as, on the other hand, one may say of Emerson that he showed more genius for poetry than talent, his inspiration surpassed his technical skill.

One is not surprised when he finds that John Brown was one of Thoreau's heroes; he was a sort of John Brown himself in another sphere; but one is surprised when one finds him so heartily approving of Walt Whitman and traveling to Brooklyn to look upon him and hear his voice. He recognized at once the tremendous significance of Whitman and the power of his poetry. He called him the greatest democrat which the world had yet seen. With all his asceticism and his idealism, he was not troubled at all with those things in Whitman that are a stumbling-block to so many persons. Evidently his long intercourse with

Nature had prepared him for the primitive and elemental character of Whitman's work. No doubt also his familiarity with the great poems and sacred books of the East helped him. At any rate, in this respect, his endorsement of Whitman adds greatly to our conception of the mental and spiritual stature of Thoreau.

I can hold my criticism in the back of my head while I say with my forehead that all our other nature writers seem tame and insipid beside Thoreau. He was so much more than a mere student and observer of nature; and it is this surplusage which gives the extra weight and value to his nature writing. He was a critic of life, he was a literary force that made for plain living and high thinking. His nature lore was an aside; he gathered it as the meditative saunterer gathers a leaf, or a flower, or a shell on the beach, while he ponders on higher things. He had other business with the gods of the woods than taking an inventory of their wares. He was a dreamer, an idealist, a fervid ethical teacher, seeking inspiration in the fields and woods. The hound, the turtle-dove. and the bay horse which he said he had lost, and for whose trail he was constantly seeking, typified his interest in wild nature. The natural history in his books is quite secondary. The natural or supernatural history of his own thought absorbed

him more than the exact facts about the wild life around him. He brings us a gospel more than he brings us a history. His science is only the handmaid of his ethics; his wood-lore is the foil of his moral and intellectual teachings. His observations are frequently at fault, or wholly wide of the mark; but the flower or specimen that he brings you always "comes laden with a thought." There is a tang and a pungency to nearly everything he published; the personal quality which flavors it is like the formic acid which the bee infuses into the nectar he gets from the flower, and which makes it honey.

I feel that some such statement about Thoreau should precede or go along with any criticism of him as a writer or as an observer. He was, first and last, a moral force speaking in the terms of the literary naturalist.

Thoreau's prayer in one of his poems—that he might greatly disappoint his friends—seems to have been answered. While his acquaintances went into trade or the professions, he cast about to see what he could do to earn his living and still be true to the call of his genius. In his Journal of 1851 he says: "While formerly I was looking about to see what I could do for a living, some sad experiences in conforming to the wishes of friends being fresh in my mind to tax my ingenuity, I thought often and seriously of picking huckleber-

ries: that surely I could do, and its small profits might suffice, so little capital is required, so little distraction from my wonted thoughts." He could range the hills in summer and still look after the flocks of King Admetus. He also dreamed that he might gather the wild herbs and carry evergreens to such villagers as loved to be reminded of the woods. But he soon learned that trade cursed everything, and that "though you trade in messages from heaven, the whole curse of trade attaches to the business." The nearest his conscience would allow him to approach any kind of trade was to offer himself to his townsmen as a land-surveyor. This would take him to the places where he liked to be; he could still walk in the fields and woods and swamps and earn his living thereby. The chain and compass became him well, quite as well as his bean-field at Walden, and the little money they brought him was not entirely sordid.

In one of his happy moods in "Walden" he sets down in a half-facetious, half-mystical, but wholly delightful way, his various avocations, such as his self-appointment as inspector of snow-storms and rain-storms, and surveyor of forest paths and all across-lot routes, and herdsman of the wild stock of the town. He is never more enjoyable than in such passages. His account of going into business at Walden Pond is in the same

happy vein. As his fellow citizens were slow in offering him any opening in which he could earn a living, he turned to the woods, where he was better known, and determined to go into business at once without waiting to acquire the usual capital. He expected to open trade with the Celestial Empire, and Walden was just the place to start the venture. He thought his strict business habits acquired through years of keeping tab on wild Nature's doings, his winter days spent outside the town, trying to hear what was in the wind, and his early spring mornings before his neighbors were astir to hear the croak of the first frog, all the training necessary to ensure success in business with the Celestial Empire. He admits, it is true, that he never assisted the sun materially in his rising, but doubted not that it was of the last importance only to be present at it. All such fooling as this is truly delightful. When he goes about his sylvan business with his tongue in his cheek and a quizzical, good-humored look upon his face in this way, and advertises the hound, the bay horse, and the turtle-dove he lost so long ago, he is the true Thoreau, and we take him to our hearts.

One also enjoys the way in which he magnifies his petty occupations. His brag over his beanfield is delightful. He makes one want to hoe beans with him:

When my hoe tinkled against the stones, that music echoed to the woods and the sky and was an accompaniment to my labor which yielded an instant and immeasurable crop. It was no longer beans that I hoed. nor I that hoed beans; and I remembered with as much pity as pride, if I remembered at all, my acquaintances who had gone to the city to attend the oratorios. The nighthawk circled overhead in the sunny afternoons for I sometimes made a day of it - like a mote in the eve, or in heaven's eve, falling from time to time with a swoop and a sound as if the heavens were rent, torn at last to very rags and tatters, and vet a seamless cope remained: small imps that fill the air and lay their eggs on the ground on bare sand or rocks on the top of hills. where few have found them; graceful and slender like ripples caught up from the pond, as leaves are raised by the wind to float in the heavens; such kindredship is in nature. The hawk is aërial brother of the wave which he sails over and surveys, those his perfect airinflated wings answering to the elemental unfledged pinions of the sea. Or sometimes I watched a pair of hen-hawks circling high in the sky, alternately soaring and descending, approaching and leaving one another, as if they were the embodiment of my own thoughts. Or I was attracted by the passage of wild pigeons from this wood to that, with a slight quivering winnowing sound and carrier haste; or from under a rotten stump my hoe turned up a sluggish portentous and outlandish salamander, a trace of Egypt and the Nile, vet our contemporary. When I paused to lean on my hoe, these sounds and sights I heard and saw anywhere in the row, a part of the inexhaustible entertainment which the country offers.

All this is in his best style. Who, after reading it, does not long for a bean-field? In planting it, too what music attends him!

Near at hand, upon the topmost spray of a birch, sings the brown thrasher — or red mavis, as some love to call him — all the morning, glad of your society, that would find out another farmer's field if yours were not here. While you are planting the seed he cries, — "Drop it, drop it, — cover it up, cover it up, — pull it up, pull it up, pull it up." But this was not corn, and so it was safe from such enemies as he. You may wonder what his rigmarole, his amateur Paganini performances on one string or on twenty, have to do with your planting, and yet prefer it to leached ashes or plaster. It was a cheap sort of top dressing in which I had entire faith.

What lessons he got in botany in the hoeing!

Consider the intimate and curious acquaintance one makes with various kinds of weeds. — it will bear some iteration in the account, for there was no little iteration in the labor, - disturbing their delicate organizations so ruthlessly, and making such invidious distinctions with his hoe, levelling whole ranks of one species, and sedulously cultivating another. That's Roman wormwood, — that's pigweed, — that's sorrel, — that's pipergrass, - have at him, chop him up, turn his roots upward to the sun, don't let him have a fibre in the shade, if you do he'll turn himself t'other side up and be as green as a leek in two days. A long war, not with cranes, but with weeds, those Trojans who had sun and rain and dews on their side. Daily the beans saw me come to their rescue armed with a hoe, and thin the ranks of their enemies, filling up the trenches with weedy dead. Many a lusty crest-waving Hector, that towered a whole foot above his crowding comrades, fell before my weapon and rolled in the dust.

I have occasional visits in the long winter evenings, when the snow falls fast and the wind howls in the wood, from an old settler and original proprietor, who

is reported to have dug Walden Pond, and stoned it. and fringed it with pine woods; who tells me stories of old time and of new eternity; and between us we manage to pass a cheerful evening with social mirth and pleasant views of things, even without apples or cider, — a most wise and humorous friend, whom I love much. who keeps himself more secret than ever did Goffe or Whalley: and though he is thought to be dead, none can show where he is buried. An elderly dame, too, dwells in my neighborhood, invisible to most persons, in whose odorous herb garden I love to stroll sometimes. gathering simples and listening to her fables; for she has a genius of unequalled fertility, and her memory runs back farther than mythology, and she can tell me the original of every fable, and on what fact every one is founded, for the incidents occurred when she was young. A ruddy and lusty old dame, who delights in all weathers and seasons, and is likely to outlive all her children yet.

Thoreau taxed himself to find words and images strong enough to express his aversion to the lives of the men who were "engaged" in the various industrial fields about him. Everywhere in shops and offices and fields it appeared to him that his neighbors were doing penance in a thousand remarkable ways:

What I have heard of Bramins sitting exposed to four fires and looking in the face of the sun; or hanging suspended, with their heads downward, over flames; or looking at the heavens over their shoulders "until it becomes impossible for them to resume their natural position, while from the twist of the neck nothing but liquids can pass into the stomach"; or dwelling, chained for life, at the foot of a tree; or measuring with their bodies, like caterpillars, the breadth of vast empires;

or standing on one leg on the tops of pillars, — even these forms of conscious penance are hardly more incredible and astonishing than the scenes which I daily witness. . . . I see young men, my townsmen, whose misfortune it is to have inherited farms, houses, barns, cattle, and farming tools; for these are more easily acquired than got rid of.

Surely this disciple of the Gospel of the Wild must have disappointed his friends. It was this audacious gift which Thoreau had for making worldly possessions seem ignoble, that gives the tang to many pages of his writings.

Thoreau became a great traveler — in Concord. as he says - and made Walden Pond famous in our literature by spending two or more years in the woods upon its shore, and writing an account of his sojourn there which has become a nature classic. He was a poet-naturalist, as his friend Channing aptly called him, of untiring industry, and the country in a radius of seven or eight miles about Concord was threaded by him in all seasons as probably no other section of New England was ever threaded and scrutinized by any one man. Walking in the fields and woods, and recording what he saw and heard and thought in his Journal, became the business of his life. He went over the same ground endlessly, but always brought back new facts, or new impressions, because he was so sensitive to all the changing features of the day and the season in the landscape about him.

Once he extended his walking as far as Quebec, Canada, and once he took in the whole of Cape Cod; three or four times he made excursions to the Maine woods, the result of which gave the name to one of his most characteristic volumes; but as habitually as the coming of the day was he a walker about Concord, in all seasons, primarily for companionship with untamed Nature, and secondarily as a gleaner in the fields of natural history.

II

THOREAU was not a great philosopher, he was not a great naturalist, he was not a great poet, but as a nature-writer and an original character he is unique in our literature. His philosophy begins and ends with himself, or is entirely subjective, and is frequently fantastic, and nearly always illogical. His poetry is of the oracular kind, and is only now and then worth attention. There are crudities in his writings that make the conscientious literary craftsman shudder; there are mistakes of observation that make the serious naturalist wonder; and there is often an expression of contempt for his fellow countrymen, and the rest of mankind, and their aims in life, that makes the judicious grieve. But at his best there is a gay symbolism, a felicity of description, and a freshness of observation that delight all readers.

As a person he gave himself to others reluctantly; he was, in truth, a recluse. He stood for character more than for intellect, and for intuition more than for reason. He was often contrary and inconsistent. There was more crust than crumb in the loaf he gave us.

He went about the business of living with his head in the clouds, or with an absolute devotion to the ideal that is certainly rare in our literary history. He declared that he aimed to crow like chanticleer in the morning, if only to wake his neighbors up. Much of his writings have this chanticleerian character; they are a call to wake up, to rub the film from one's eyes, and see the real values of life. To this end he prods with paradoxes, he belabors with hyperboles, he teases with irony, he startles with the unexpected. He finds poverty more attractive than riches, solitude more welcome than society, a sphagnum swamp more to be desired than a flowered field.

Thoreau is suggestive of those antibodies which modern science makes so much of. He tends to fortify us against the dry rot of business, the seductions of social pleasures, the pride of wealth and position. He is antitoxic; he is a literary germicide of peculiar power. He is too religious to go to church, too patriotic to pay his taxes, too fervent a humanist to interest himself in the social welfare of his neighborhood.

Thoreau called himself a mystic, and a transcendentalist, and a natural philosopher to boot. But the least of these was the natural philosopher. He did not have the philosophic mind, nor the scientific mind; he did not inquire into the reason of things, nor the meaning of things; in fact, had no disinterested interest in the universe apart from himself. He was too personal and illogical for a philosopher. The scientific interpretation of things did not interest him at all. He was interested in things only so far as they related to Henry Thoreau. He interpreted Nature entirely in the light of his own idiosyncrasies.

Science goes its own way in spite of our likes and dislikes, but Thoreau's likes and dislikes determined everything for him. He was stoical, but not philosophical. His intellect had no free play outside his individual predilection. Truth as philosophers use the term, was not his quest but truth made in Concord.

Thoreau writes that when he was once asked by the Association for the Advancement of Science what branch of science he was especially interested in, he did not reply because he did not want to make himself the laughing-stock of the scientific community, which did not believe in a science which deals with the higher law — his higher law, which bears the stamp of Henry Thoreau.

He was an individualist of the most pronounced

type. The penalty of this type of mind is narrowness; the advantage is the personal flavor imparted to the written page. Thoreau's books contain plenty of the pepper and salt of character and contrariness; even their savor of whim and prejudice adds to their literary tang. When his individualism becomes aggressive egotism, as often happens, it is irritating; but when it gives only that pungent and personal flavor which pervades much of "Walden," it is very welcome.

Thoreau's critics justly aver that he severely arraigns his countrymen because they are not all Thoreaus — that they do not desert their farms and desks and shops and take to the woods. What unmeasured contempt he pours out upon the lives and ambitions of most of them! Need a naturelover, it is urged, necessarily be a man-hater? not man a part of nature? - averaging up quite as good as the total scheme of things out of which he came? Cannot his vices and shortcomings be matched by a thousand cruel and abortive things in the fields and the woods? The fountain cannot rise above its source, and man is as good as is the nature out of which he came, and of which he is a part. Most of Thoreau's harsh judgments upon his neighbors and countrymen are only his extreme individualism gone to seed.

An extremist he always was. Extreme views commended themselves to him because they were

extreme. His aim in writing was usually "to make an extreme statement." He left the middle ground to the school committees and trustees. had in him the stuff of which martyrs and heroes are made. In John Brown he recognized a kindred soul. But his literary bent led him to take his own revolutionary impulses out in words. closest he came to imitation of the hero of Harper's Ferry and to defying the Government was on one occasion when he refused to pay his poll-tax and thus got himself locked in jail overnight. It all seems a petty and ignoble ending of his fierce denunciation of politics and government, but it no doubt helped to satisfy his imagination, which so tyrannized over him throughout life. He could endure offenses against his heart and conscience and reason easier than against his imagination.

He presents that curious phenomenon of a man who is an extreme product of culture and civilization, and yet who so hungers and thirsts for the wild and the primitive that he is unfair to the forces and conditions out of which he came, and by which he is at all times nourished and upheld. He made his excursions into the Maine wilderness and lived in his hut by Walden Pond as a scholar and philosopher, and not at all in the spirit of the lumbermen and sportsmen whose wildness he so much admired. It was from his vantage-ground of culture and of Concord transcendentalism that

he appraised all these types. It was from a community built up and sustained by the common industries and the love of gain that he decried all these things. It was from a town and a civilization that owed much to the pine tree that he launched his diatribe against the lumbermen in the Maine woods: "The pine is no more lumber than man is; and to be made into boards and houses no more its true and highest use than the truest use of man is to be cut down and made into manure." Not a happy comparison, but no matter. If the pine tree had not been cut down and made into lumber, it is quite certain that Thoreau would never have got to the Maine woods to utter this protest, just as it is equally certain that had he not been a member of a thrifty and industrious community, and kept his hold upon it, he could not have made his Walden experiment of toying and coquetting with the wild and the non-industrial. His occupations as land-surveyor, lyceum lecturer, and magazine writer attest how much he owed to the civilization he was so fond of decrying. This is Thoreau's weakness — the half-truths in which he plumes himself, as if they were the whole law and gospel. His Walden bean-field was only a pretty piece of play-acting; he cared more for the ringing of his hoe upon the stones than for the beans. Had his living really depended upon the product, the sound would not have pleased him

so, and the botany of the weeds he hoed under would not have so interested him.

Thoreau's half-truths titillate and amuse the mind. We do not nod over his page. We enjoy his art while experiencing an undercurrent of protest against his unfairness. We could have wished him to have shown himself in his writings as somewhat sweeter and more tolerant toward the rest. of the world, broader in outlook, and more just and charitable in disposition — more like his great prototype, Emerson, who could do full justice to the wild and the spontaneous without doing an injustice to their opposites; who could see the beauty of the pine tree, yet sing the praises of the pine-tree State House; who could arraign the Government, yet pay his taxes; who could cherish Thoreau, and vet see all his limitations. Emerson affirmed more than he denied, and his charity was as broad as his judgment. He set Thoreau a good example in bragging, but he bragged to a better purpose. He exalted the present moment, the universal fact, the omnipotence of the moral law, the sacredness of private judgment; he pitted the man of to-day against all the saints and heroes of history; and, although he decried traveling, he was yet considerable of a traveler, and never tried to persuade himself that Concord was an epitome of the world. Emerson comes much nearer being a national figure than does Thoreau, and yet Thoreau, by

reason of his very narrowness and perversity, and by his intense local character, united to the penetrating character of his genius, has made an enduring impression upon our literature.

III

THOREAU'S life was a search for the wild. He was the great disciple of the Gospel of Walking. He elevated walking into a religious exercise. One of his most significant and entertaining chapters is on "Walking." No other writer that I recall has set forth the Gospel of Walking so eloquently and so stimulatingly. Thoreau's religion and his philosophy are all in this chapter. It is his most mature, his most complete and comprehensive statement. He says:

I have met with but one or two persons in the course of my life who understood the art of Walking, that is, of taking walks — who had a genius, so to speak, for sauntering, which word is beautifully derived "from idle people who roved about the country, in the Middle Ages, and asked charity, under pretence of going à la Sainte Terre," to the Holy Land, till the children exclaimed, "There goes a Sainte-Terrer," — a Saunterer, a Holy-Lander. They who never go to the Holy Land in their walks, as they pretend, are indeed mere idlers and vagabonds; but they who do go there are saunterers in the good sense, such as I mean. . . . For every walk is a sort of crusade, preached by some Peter the Hermit in us, to go forth and reconquer this Holy Land from the hands of the Infidels.

Thoreau was the first man in this country, or in any other, so far as I know, who made a religion of walking — the first to announce a Gospel of the Wild. That he went forth into wild nature in much the same spirit that the old hermits went into the desert, and was as devout in his way as they were in theirs, is revealed by numerous passages in his Journal. He would make his life a sacrament; he discarded the old religious terms and ideas, and struck out new ones of his own:

What more glorious condition of being can we imagine than from impure to become pure? May I not forget that I am impure and vicious! May I not cease to love purity! May I go to my slumbers as expecting to arise to a new and more perfect day! May I so live and refine my life as fitting myself for a society ever higher than I actually enjoy!

To watch for and describe all the divine features which I detect in nature! My profession is to be always on the alert to find God in nature, to know his lurking-place, to attend all the oratorios, the operas,

in nature.

Ah! I would walk, I would sit, and sleep, with natural piety. What if I could pray aloud or to myself as I went along the brooksides a cheerful prayer like the birds? For joy I could embrace the earth. I shall delight to be buried in it.

I do not deserve anything. I am unworthy the least regard, and yet I am made to rejoice. I am impure and worthless, and yet the world is gilded for my delight and holidays are prepared for me, and my path is strewn with flowers. But I cannot thank the Giver; I cannot even whisper my thanks to the human friends I have.

In the essay on "Walking," Thoreau says that the art of walking "comes only by the grace of God. It requires a direct dispensation from Heaven to become a walker. You must be born into the family of the Walkers." "I think that I cannot preserve my health and spirits, unless I spend four hours a day at least, —it is commonly more than that, — sauntering through the woods and over the hills and fields, absolutely free from all worldly engagements."

Thoreau made good his boast. He was a new kind of walker, a Holy-Lander. His walks yielded him mainly spiritual and ideal results. The fourteen published volumes of his Journal are mainly a record of his mental reactions to the passing seasons and to the landscape he sauntered through. There is a modicum of natural history, but mostly he reaps the intangible harvest of the poet, the saunterer, the mystic, the super-sportsman.

With his usual love of paradox Thoreau says that the fastest way to travel is to go afoot, because, one may add, the walker is constantly arriving at his destination; all places are alike to him, his harvest grows all along the road and beside every path, in every field and wood and on every hilltop.

All of Thoreau's books belong to the literature of Walking, and are as true in spirit in Paris or London as in Concord. His natural history, for

which he had a passion, is the natural history of the walker, not always accurate, as I have pointed out, but always graphic and interesting.

Wordsworth was about the first poet-walker a man of letters who made a business of walking. and whose study was really the open air. But he was not a Holy-Lander in the Thoreau sense. He did not walk to get away from people as Thoreau did, but to see a greater variety of them, and to gather suggestions for his poems. Not so much the wild as the human and the morally significant were the objects of Wordsworth's quest. He haunted waterfalls and fells and rocky heights and lonely tarns, but he was not averse to footpaths and highways, and the rustic, half-domesticated nature of rural England. He was a nature-lover; he even calls himself a nature-worshiper; and he appears to have walked as many, or more, hours each day, in all seasons, as did Thoreau; but he was hunting for no lost paradise of the wild: nor waging a war against the arts and customs of civilization. Man and life were at the bottom of his interest in Nature.

Wordsworth never knew the wild as we know it in this country — the pitilessly savage and rebellious; and, on the other hand, he never knew the wonderfully delicate and furtive and elusive nature that we know; but he knew the sylvan, the pastoral, the rustic-human, as we cannot know

them. British birds have nothing plaintive in their songs; and British woods and fells but little that is disorderly and cruel in their expression, or violent in their contrasts.

Wordsworth gathered his finest poetic harvest from common nature and common humanity about him—the wayside birds and flowers and waterfalls, and the wayside people. Though he called himself a worshiper of Nature, it was Nature in her half-human moods that he adored—Nature that knows no extremes, and that has long been under the influence of man—a soft, humid, fertile, docile Nature, that suggests a domesticity as old and as permanent as that of cattle and sheep. His poetry reflects these features, reflects the high moral and historic significance of the European landscape, while the poetry of Emerson, and of Thoreau, is born of the wildness and elusiveness of our more capricious and unkempt Nature.

The walker has no axe to grind; he sniffs the air for new adventure; he loiters in old scenes, he gleans in old fields. He only seeks intimacy with Nature to surprise her preoccupied with her own affairs. He seeks her in the woods, the swamps, on the hills, along the streams, by night and by day, in season and out of season. He skims the fields and hillsides as the swallow skims the air, and what he gets is intangible to most persons. He sees much with his eyes, but he sees more with his heart

and imagination. He bathes in Nature as in a sea. He is alert for the beauty that waves in the trees, that ripples in the grass and grain, that flows in the streams, that drifts in the clouds, that sparkles in the dew and rain. The hammer of the geologist, the notebook of the naturalist, the box of the herbalist, the net of the entomologist, are not for him. He drives no sharp bargains with Nature, he reads no sermons in stones, no books in running brooks, but he does see good in everything. The book he reads he reads through all his senses - through his eyes, his ears, his nose, and also through his feet and hands - and its pages are open everywhere; the rocks speak of more than geology to him, the birds of more than ornithology, the flowers of more than botany, the stars of more than astronomy, the wild creatures of more than zoölogy.

The average walker is out for exercise and the exhilarations of the road, he reaps health and strength; but Thoreau evidently impaired his health by his needless exposure and inadequate food. He was a Holy-Lander who falls and dies in the Holy Land. He ridiculed walking for exercise — taking a walk as the sick take medicine; the walk itself was to be the "enterprise and adventure of the day." And "you must walk like a camel, which is said to be the only beast which ruminates while walking."

IV

THOREAU'S friends and neighbors seem to have persuaded themselves that his natural-history lore was infallible, and, moreover, that he possessed some mysterious power over the wild creatures about him that other men did not possess. I recall how Emerson fairly bristled up when on one occasion while in conversation with him I told him I thought Thoreau in his trips to the Maine woods had confounded the hermit thrush with the wood thrush, as the latter was rarely or never found in Maine. As for Thoreau's influence over the wild creatures. Emerson voiced this superstition when he said, "Snakes coiled round his leg, the fishes swam into his hand, and he took them from the water; he pulled the woodchuck out of its hole by the tail, and took the foxes under his protection from the hunters." Of course Thoreau could do nothing with the wild creatures that you or I could not do under the same conditions. A snake will coil around any man's leg if he steps on its tail, but it will not be an embrace of affection; and a fish will swim into his hands under the same conditions that it will into Thoreau's. As for pulling a woodchuck out of its hole by the tail, the only trouble is to get hold of the tail. The 'chuck is pretty careful to keep his tail behind him, but many a farm boy, aided by his dog, has pulled one out of the stone wall by the tail, much against the 'chuck's

will. If Thoreau's friends were to claim that he could carry Mephitis mephitica by the tail with impunity, I can say I have done the same thing, and had my photograph taken in the act. The skunk is no respecter of persons, and here again the trouble is to get hold of the tail at the right moment — and, I may add, to let go of it at the right moment.

Thoreau's influence over the wild creatures is what every man possesses who is alike gentle in his approach to them. Bradford Torrey succeeded, after a few experiments, in so dispelling the fears of an incubating red-eyed vireo that she would take insect food from his hand, and I have known several persons to become so familiar with the chickadees that they would feed from the hand, and in some instances even take food from between the lips. If you have a chipmunk for a neighbor, you may soon become on such intimate terms with him that he will search your pockets for nuts and sit on your knee and shoulder and eat them. But why keep alive and circulate as truth these animal legends of the prescientific ages?

Thoreau was not a born naturalist, but a born supernaturalist. He was too intent upon the bird behind the bird always to take careful note of the bird itself. He notes the birds, but not too closely. He was at times a little too careless in this respect to be a safe guide to the bird-student. Even the

saunterer to the Holy Land ought to know the indigo bunting from the black-throated blue warbler, with its languid, midsummery, "Zee, zee, zee-eu."

Many of his most interesting natural-history notes Thoreau got from his farmer friends — Melvin, Minott, Miles, Hubbard, Wheeler. Their eyes were more single to the life around them than were his; none of them had lost a hound, a turtle-dove, and a bay horse, whose trail they were daily in quest of.

A haunter of swamps and river marshes all his life, he had never yet observed how the night bittern made its booming or pumping sound, but accepted the explanation of one of his neighbors that it was produced by the bird thrusting its bill in water, sucking up as much as it could hold, and then pumping it out again with four or five heaves of the neck, throwing the water two or three feet — in fact, turning itself into a veritable pump! I have stood within a few yards of the bird when it made the sound, and seen the convulsive movement of the neck and body, and the lifting of the head as the sound escaped. The bird seems literally to vomit up its notes, but it does not likewise emit water.

Every farmer and fox-hunter would smile if he read Thoreau's statement, made in his paper on the natural history of Massachusetts, that "when

the snow lies light and but five or six inches deep. you may give chase and come up with the fox on foot," Evidently Thoreau had never tried it. With a foot and a half, or two feet of snow on the ground, and traveling on snowshoes, you might force a fox to take to his hole, but you would not come up to him. In four or five feet of soft snow hunters come up with the deer, and ride on their backs for amusement, but I doubt if a red fox ever ventures out in such a depth of snow. In one of his May walks in 1860. Thoreau sees the trail of the musquash in the mud along the river-bottoms, and he is taken by the fancy that, as our roads and city streets often follow the early tracks of the cow, so "rivers in another period follow the trail of the musquash." As if the river was not there before the musquash was!

Again, his mysterious "night warbler," to which he so often alludes, was one of our common every-day birds which most school-children know, namely, the oven-bird, or wood-accentor, yet to Thoreau it was a sort of phantom bird upon which his imagination loved to dwell. Emerson told him he must beware of finding and booking it, lest life should have nothing more to show him. But how such a haunter of woods escaped identifying the bird is a puzzle.

In his walks in the Maine woods Thoreau failed to discriminate the song of the hermit thrush from

that of the wood thrush. The melody, no doubt, went to his heart, and that was enough. Though he sauntered through orchards and rested under apple trees, he never observed that the rings of small holes in the bark were usually made by the yellow-bellied woodpecker, instead of by Downy, and that the bird was not searching for grubs or insects, but was feeding upon the milky cambium layer of the inner bark.

But Thoreau's little slips of the kind I have called attention to count as nothing against the rich harvest of natural-history notes with which his work abounds. He could describe bird-songs and animal behavior and give these things their right emphasis in the life of the landscape as no other New England writer has done. His account of the battle of the ants in Walden atones an hundred-fold for the lapses I have mentioned.

One wonders just what Thoreau means when he says in "Walden," in telling of his visit to "Baker Farm": "Once it chanced that I stood in the very abutment of a rainbow's arch, which filled the lower stratum of the atmosphere, tinging the grass and leaves around, and dazzling me as if I looked through colored crystal." Is it possible, then, to reach the end of the rainbow? Why did he not dig for the pot of gold that is buried there? How he could be aware that he was standing at the foot of one leg of the glowing arch is to me a

mystery. When I see a rainbow, it is always immediately in front of me. I am standing exactly between the highest point of the arch and the sun, and the laws of optics ordain that it can be seen in no other way. You can never see a rainbow at an angle. It always faces you squarely. Hence no two persons see exactly the same bow, because no two persons can occupy exactly the same place at the same time. The bow you see is directed to you alone. Move to the right or the left, and it moves as fast as you do. You cannot flank it or reach its end. It is about the most subtle and significant phenomenon that everyday Nature presents to us. Unapproachable as a spirit, like a visitant from another world, yet the creation of the familiar sun and rain!

How Thoreau found himself standing in the bow's abutment will always remain a puzzle to me. Observers standing on high mountains with the sun low in the west have seen the bow as a complete circle. This one can understand.

We can point many a moral and adorn many a tale with Thoreau's shortcomings and failures in his treatment of nature themes. Channing quotes him as saying that sometimes "you must see with the inside of your eye." I think that Thoreau saw, or tried to see, with the inside of his eye too often. He does not always see correctly, and many times he sees more of Thoreau than he does of the nature

he assumes to be looking at. Truly it is "needless to travel for wonders," but the wonderful is not one with the fantastic or the far-fetched. Forcible expression, as I have said, was his ruling passion as a writer. Only when he is free from its thrall, which in his best moments he surely is, does he write well. When he can forget Thoreau and remember only nature, we get those delightful descriptions and reflections in "Walden." When he goes to the Maine woods or to Cape Cod or to Canada, he leaves all his fantastic rhetoric behind him and gives us sane and refreshing books. his walks with Channing one suspects he often let himself go to all lengths, did his best to turn the world inside out, as he did at times in his Journals, for his own edification and that of his wondering disciple.

To see analogies and resemblances everywhere is the gift of genius, but to see a resemblance to volcanoes in the hubs or gnarls on birch or beech trees, or cathedral windows in the dead leaves of the andromeda in January, or a suggestion of Teneriffe in a stone-heap, does not indicate genius. To see the great in the little, or the whole of Nature in any of her parts, is the poet's gift, but to ask, after seeing the andropogon grass, "Are there no purple reflections from the culms of thought in my mind?"—a remark which Channing quotes as very significant—is not to be poetical. Thoreau is full

of these impossible and fantastic comparisons, thinking only of striking expressions and not at all about the truth. "The flowing of the sap under the dull rind of the trees" is suggestive, but what suggestion is there in the remark, "May I ever be in as good spirits as a willow"? The mood of the scrub oak was more habitual with him.

Thoreau was in no sense an interpreter of nature; he did not draw out its meanings or seize upon and develop its more significant phases. Seldom does he relate what he sees or thinks to the universal human heart and mind. He has rare power of description, but is very limited in his power to translate the facts and movements of nature into human emotion. His passage on the northern lights, which Channing quotes from the Journals, is a good sample of his failure in this respect:

Now the fire in the north increases wonderfully, not shooting up so much as creeping along, like a fire on the mountains of the north seen afar in the night. The Hyperborean gods are burning brush, and it spread, and all the hoes in heaven could n't stop it. It spread from west to east over the crescent hill. Like a vast fiery worm it lay across the northern sky, broken into many pieces; and each piece, with rainbow colors skirting it, strove to advance itself toward the east, worm-like, on its own annular muscles. It has spread into their choicest wood-lots. Now it shoots up like a single solitary watch-fire or burning bush, or where it ran up a pine tree like powder, and still it continues to gleam here and there like a fat stump in the burning, and is reflected in the water. And now I see the gods

by great exertions have got it under, and the stars have come out without fear, in peace.

I get no impression of the mysterious almost supernatural character of the aurora from such a description in terms of a burning wood-lot or a hay-stack; it is no more like a conflagration than an apparition is like solid flesh and blood. Its wonderful, I almost said its spiritual, beauty, its sudden vanishings and returnings, its spectral, evanescent character — why, it startles and awes one as if it were the draperies around the throne of the Eternal. And then his mixed metaphor — the Hyperborean gods turned farmers and busy at burning brush, then a fiery worm, and then the burning wood-lots! But this is Thoreau — inspired with the heavenly elixir one moment, and drunk with the brew in his own cellar the next.

V

THOREAU'S faults as a writer are as obvious as his merits. Emerson hit upon one of them when he said, "The trick of his rhetoric is soon learned; it consists in substituting for the obvious word and thought, its diametrical antagonist." He praises wild mountains and winter forests for their domestic air, snow and ice for their warmth, and so on. (Yet Emerson in one of his poems makes frost burn and fire freeze.) One frequently comes upon such sentences as these: "If I were sadder, I should

be happier"; "The longer I have forgotten you. the more I remember you." It may give a moment's pleasure when a writer takes two opposites and rubs their ears together in that way, but one may easily get too much of it. Words really mean nothing when used in such a manner. When Emerson told Channing that if he (Emerson) could write as well as he did, he would write a great deal better, one readily sees what he means. And when Thoreau says of one of his callers, "I like his looks and the sound of his silence," the contradiction pleases one. But when he tells his friend that hate is the substratum of his love for him, words seem to have lost their meaning. Now and then he is guilty of sheer bragging, as when he says, "I would not go around the corner to see the world blow up."

He often defies all our sense of fitness and proportion by the degree in which he magnifies the little and belittles the big. He says of the singing of a cricket which he heard under the border of some rock on the hillside one mid-May day, that it "makes the finest singing of birds outward and insignificant." "It is not so wildly melodious, but it is wiser and more mature than that of the wood thrush." His forced and meaningless analogies come out in such a comparison as this: "Most poems, like the fruits, are sweetest toward the blossom end." Which is the blossom end of a poem?

Thoreau advised one of his correspondents when he made garden to plant some Giant Regrets they were good for sauce. It is certain that he himself planted some Giant Exaggerations and had a good yield. His exaggeration was deliberate. "Walden" is from first to last a most delightful sample of his talent. He belittles everything that goes on in the world outside his bean-field. Business, politics, institutions, governments, wars and rumors of wars, were not so much to him as the humming of a mosquito in his hut at Walden: "I am as much affected by the faint hum of a mosquito making its invisible and unimaginable tour through my apartment at earliest dawn, when I was sitting with door and windows open, as I could be by any trumpet that ever sang of fame. It was Homer's requiem; itself an Iliad and Odyssey in the air, singing its own wrath and wanderings. There was something cosmical about it." One wonders what he would have made of a blow-fly buzzing on the pane.

He made Walden Pond famous because he made it the center of the universe and found life rich and full without many of the things that others deem necessary. There is a stream of pilgrims to Walden at all seasons, curious to see where so much came out of so little — where a man had lived who preferred poverty to riches, and solitude to society, who boasted that he could do without the

post office, the newspapers, the telegraph, and who had little use for the railroad, though he thought mankind had become a little more punctual since its invention.

Another conspicuous fault as a writer is his frequent use of false analogies, or his comparison of things which have no ground of relationship, as when he says: "A day passed in the society of those Greek sages, such as described in the Banquet of Xenophon, would not be comparable with the dry wit of decayed cranberry-vines, and the fresh Attic salt of the moss-beds." The word "wit" has no meaning when thus used. Or again where he says: "All great enterprises are selfsupporting. The poet, for instance, must sustain his body by his poetry, as a steam planing-mill feeds its boilers with the shavings it makes." Was there ever a more inept and untruthful comparison? To find any ground of comparison between the two things he compared, he must make his poet sustain his body by the scraps and lines of his poem which he rejects, or else the steam planing-mill consume its finished product.

"Let all things give way to the impulse of expression," he says, and he assuredly practiced what he had preached.

One of his tricks of self-justification was to compare himself with inanimate objects, which is usually as inept as to compare colors with sounds

or perfumes: "My acquaintances sometimes imply that I am too cold," he writes, "but each thing is warm enough of its kind. Is the stone too cold which absorbs the heat of the summer sun and does not part with it during the night? Crystals, though they be of ice are not too cold to melt. . . . Crystal does not complain of crystal any more than the dove of its mate."

He strikes the same false note when, in discussing the question of solitude at Walden he compares himself to the wild animals around him, and to inanimate objects, and says he was no more lonely than the loons on the pond, or than Walden itself: "I am no more lonely than a single mullein or dandelion in a pasture, or a bean leaf, or a sorrel, or a house-fly, or a humble-bee. I am no more lonely than the Mill Brook, or a weather-cock, or the North Star, or the South Wind, or an April Shower, or a January Thaw, or the first spider in a new house." Did he imagine that any of these things were ever lonely? Man does get lonely, but Mill Brook and the North Star probably do not.

If he sees anything unusual in nature, like galls on trees and plants, he must needs draw some moral from it, usually at the expense of the truth. For instance, he implies that the beauty of the oak galls is something that was meant to bloom in the flower, that the galls are the scarlet sins of

the tree, the tree's Ode to Dejection, yet he must have known that they are the work of an insect and are as healthy a growth as is the regular leaf. The insect gives the magical touch that transforms the leaf into a nursery for its young. Why deceive ourselves by believing that fiction is more interesting than fact? But Thoreau is full of this sort of thing; he must have his analogy, true or false.

He says that when a certain philosophical neighbor came to visit him in his hut at Walden, their discourse expanded and racked the little house: "I should not dare to say how many pounds' weight there was above the atmospheric pressure on every circular inch; it opened its seams so that they had to be calked with much dulness thereafter to stop the consequent leak - but I had enough of that kind of oakum already picked." At the beginning of the paragraph he says that he and his philosopher sat down each with "some shingles of thoughts well dried," which they whittled, trying their knives and admiring the clear vellowish grain of the pumpkin pine. In a twinkling the three shingles of thought are transformed into fishes of thought in a stream into which the hermit and the philosopher gently and reverently wade, without scaring or disturbing them. Then, presto! the fish become a force, like the pressure of a tornado that nearly wrecks his cabin! Surely

this is tipsy rhetoric, and the work that can stand much of it, as "Walden" does, has a plus vitality that is rarely equaled.

VI

In "Walden" Thoreau, in playfully naming his various occupations, says, "For a long time I was reporter to a journal, of no very wide circulation, whose editor has never yet seen fit to print the bulk of my contributions, and, as is too common with writers, I got only my labor for my pains. However, in this case my pains were their own reward." If he were to come back now, he would, I think, open his eyes in astonishment, perhaps with irritation, to see the whole bulk of them at last in print.

His Journal was the repository of all his writings, and was drawn upon during his lifetime for all the material he printed in books and contributed to the magazines. The fourteen volumes, I venture to say, form a record of the most minute and painstaking details of what one man saw and heard on his walks in field and wood, in a single township, that can be found in any literature.

It seems as though a man who keeps a Journal soon becomes its victim; at least that seems to have been the case with Thoreau. He lived for that Journal, he read for it, he walked for it; it was like a hungry, omnivorous monster that con-

stantly called for more. He transcribed to its pages from the books he read, he filled it with interminable accounts of the commonplace things he saw in his walks, tedious and minute descriptions of everything in wood, field, and swamp. There are whole pages of the Latin names of the common weeds and flowers. Often he could not wait till he got home to write out his notes. He walked by day and night, in cold and heat, in storm and sunshine, all for his Journal. All was fish that came to that net; nothing was too insignificant to go in. He did not stop to make literature of it, or did not try, and it is rarely the raw material of literature. Its human interest is slight, its natural history interest slight also. For upwards of twenty-five years Thoreau seemed to have lived for this Journal. It swelled to many volumes. It is a drag-net that nothing escapes. The general reader reads Thoreau's Journal as he does the book of Nature, just to cull out the significant things here and there. The vast mass of the matter is merely negative, like the things that we disregard in our walk. Here and there we see a flower, or a tree, or a prospect, or a bird, that arrests attention, but how much we pass by or over without giving it a thought! And yet, just as the real nature-lover will scan eagerly the fine print in Nature's book, so will the student and enthusiast of Thoreau welcome all that is recorded in his Journals.

Thoreau says that Channing in their walks together sometimes took out his notebook and tried to write as he did, but all in vain. "He soon puts it up again, or contents himself with scrawling some sketch of the landscape. Observing me still scribbling, he will say that he confines himself to the ideal, purely ideal remarks; he leaves the facts to me. Sometimes, too, he will say, a little petulantly, 'I am universal: I have nothing to do with the particular and definite." The truth was Channing had no Journal calling, " More, more!" and was not so inordinately fond of composition. "I, too," says Thoreau, "would fain set down something beside facts. Facts should only be as the frame to my pictures; they should be material to the mythology which I am writing." But only rarely are his facts significant, or capable of an ideal interpretation. Felicitous strokes like that in which he says, "No tree has so fair a bole and so handsome an instep as the birch," are rare.

Thoreau evidently had a certain companionship with his Journal. It was like a home-staying body to whom he told everything on his return from a walk. He loved to write it up. He made notes of his observations as he went along, night or day. One time he forgot his notebook and so substituted a piece of birch-bark. He must bring back something gathered on the spot. He skimmed the

same country over and over; the cream he was after rose every day and all day, and in all seasons.

He evidently loved to see the pages of his Journal sprinkled with the Latin names of the plants and animals that he saw in his walk. A common weed with a long Latin name acquired new dignity. Occasionally he fills whole pages with the scientific names of the common trees and plants. He loved also a sprinkling of Latin quotations and allusions to old and little known authors. The pride of scholarship was strong in him. Suggestions from what we call the heathen world seemed to accord with his Gospel of the Wild.

Thoreau loved to write as well as John Muir loved to talk. It was his ruling passion. He said time never passed so quickly as when he was writing. It seemed as if the clock had been set back. He evidently went to Walden for subject-matter for his pen; and the remarkable thing about it all is that he was always keyed up to the writing pitch. The fever of expression was always upon him. Day and night, winter and summer, it raged in his blood. He paused in his walks and wrote elaborately. The writing of his Journal must have taken as much time as his walking.

Only Thoreau's constant and unquenchable thirst for intellectual activity, and to supply material for that all-devouring Journal, can, to me,

account for his main occupation during the greater part of the last two years of his life, which consisted in traversing the woods and measuring the trees and stumps and counting their rings. Apparently not a stump escaped him - pine, oak, birch, chestnut, maple, old or new, in the pasture or in the woods: he must take its measure and know its age. He must get the girth of every tree he passed and some hint of all the local conditions that had influenced its growth. Over two hundred pages of his Journal are taken up with barren details of this kind. He cross-questions the stumps and trees as if searching for the clue to some important problem, but no such problem is disclosed. He ends where he begins. His vast mass of facts and figures was incapable of being generalized or systematized. His elaborate tables of figures, so carefully arranged, absolutely accurate, no doubt, are void of interest, because no valuable inferences can be drawn from them.

"I have measured in all eight pitch pine stumps at the Tommy Wheeler hollow, sawed off within a foot of the ground. I measured the longest diameter and then at right angles with that, and took the average, and then selected the side of the stump on which the radius was of average length, and counted the number of rings in each inch, beginning at the center, thus: "And then follows a table of figures filling a page. "Of those eight,

average growth about one seventh of an inch per year. Calling the smallest number of rings in an inch in each tree one, the comparative slowness of growth of the inches is thus expressed." Then follows another carefully prepared table of figures. Before one is done with these pages one fairly suspects the writer is mad, the results are so useless. and so utterly fail to add to our knowledge of the woods. Would counting the leaves and branches in the forest, and making a pattern of each, and tabulating the whole mass of figures be any addition to our knowledge? I attribute the whole procedure, as I have said, to his uncontrollable intellectual activity, and the imaginary demands of this Journal, which continued to the end of his life. The very last pages of his Journal, a year previous to his death, are filled with minute accounts of the ordinary behavior of kittens, not one item novel or unusual, or throwing any light on the kitten. But it kept his mind busy, and added a page or two to the Journal.

In his winter walks he usually carried a four-foot stick, marked in inches, and would measure the depth of the snow over large areas, every tenth step, and then construct pages of elaborate tables showing the variations according to locality, and then work out the average — an abnormal craving for exact but useless facts. Thirty-four measurements on Walden disclosed the important fact

that the snow averaged five and one sixth inches deep. He analyzes a pensile nest which he found in the woods — doubtless one of the vireo's — and fills ten pages with a minute description of the different materials which it contained. Then he analyzes a yellow-bird's nest, filling two pages. That Journal shall not go hungry, even if there is nothing to give it but the dry material of a bird's nest.

VII

The craving for literary expression in Thoreau was strong and constant, but, as he confesses, he could not always select a theme. "I am prepared not so much for contemplation as for forceful expression." No matter what the occasion, "forceful expression" was the aim. No meditation, or thinking, but sallies of the mind. All his paradoxes and false analogies and inconsistencies come from this craving for a forceful expression. He apparently brought to bear all the skill he possessed of this kind on all occasions. One must regard him, not as a great thinker, nor as a disinterested seeker after the truth, but as a master in the art of vigorous and picturesque expression. To startle, to wake up, to communicate to his reader a little wholesome shock, is his aim. Not the novelty and freshness of his subject-matter concerns him but the novelty and unhackneyed character of his

literary style. That throughout the years a man should keep up the habit of walking, by night as well as by day, and bring such constant intellectual pressure to bear upon everything he saw. or heard, or felt, is remarkable. No evidence of relaxation, or of abandonment to the mere pleasure of the light and air and of green things growing, or of sauntering without thoughts of his Journal. He is as keved up and strenuous in his commerce with the Celestial Empire as any tradesman in world goods that ever amassed a fortune. He sometimes wrote as he walked, and expanded and elaborated the same as in his study. On one occasion he dropped his pencil and could not find it, but he managed to complete the record. One night on his way to Conantum he speculates for nearly ten printed pages on the secret of being able to state a fact simply and adequately, or of making one's self the free organ of truth — a subtle and ingenious discussion with the habitual craving for forceful expression. In vain I try to put myself in the place of a man who goes forth into wild nature with malice prepense to give free swing to his passion for forcible expression. I suppose all nature-writers go forth on their walks or strolls to the fields and woods with minds open to all of Nature's genial influences and significant facts and incidents, but rarely, I think, with the strenuousness of Thoreau - grinding the grist as they go along.

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Thoreau compares himself to the bee that goes forth in quest of honey for the hive: "How to extract honey from the flower of the world. That is my everyday business. I am as busy as the bee about it. I ramble over all fields on that errand and am never so happy as when I feel myself heavy with honey and wax." To get material for his Journal was as much his business as it was the bee's to get honey for his comb. He apparently did not know that the bee does not get honey nor wax directly from the flowers, but only nectar, or sweet water. The bee, as I have often said, makes the honey and the wax after she gets home to the swarm. She puts the nectar through a process of her own, adds a drop of her own secretion to it. namely, formic acid, the water evaporates, and lo! the tang and pungency of honey!

VIII

THERE can be little doubt that in his practical daily life we may credit Thoreau with the friend-liness and neighborliness that his friend Dr. Edward W. Emerson claims for him. In a recent letter to me. Dr. Emerson writes: "He carried the old New England undemonstrativeness very far. He was also, I believe, really shy, prospered only in monologue, except in a walk in the woods with one companion, and his difficulties increased to impossibility in a room full of people." Dr. Emerson ad-

mits that Thoreau is himself to blame for giving his readers the impression that he held his kind in contempt, but says that in reality he had neighborliness, was dutiful to parents and sisters, showed courtesy to women and children and an open, friendly side to many a simple, uncultivated townsman.

This practical helpfulness and friendliness in Thoreau's case seems to go along with the secret contempt he felt and expressed in his Journal toward his fellow townsmen. At one time he was chosen among the selectmen to perambulate the town lines - an old annual custom. One day they perambulated the Lincoln line, the next day the Bedford line, the next day the Carlisle line, and so on, and kept on their rounds for a week. Thoreau felt soiled and humiliated. "A fatal coarseness is the result of mixing in the trivial affairs of men. Though I have been associating even with the select men of this and adjoining towns, I feel inexpressibly begrimed." How fragile his self-respect was! Yet he had friends among the surrounding farmers, whose society and conversation he greatly valued.

That Thoreau gave the impression of being what country folk call a crusty person — curt and forbidding in manner — seems pretty well established. His friend Alcott says he was deficient in the human sentiments. Emerson, who, on the

whole, loved and admired him, says: "Thoreau sometimes appears only as a gendarme, good to knock down a cockney with, but without that power to cheer and establish which makes the value of a friend." Again he says: "If I knew only Thoreau, I should think cooperation of good men impossible. Must we always talk for victory, and never once for truth, for comfort, and joy? Centrality he has, and penetration, strong understanding, and the higher gifts. — the insight of the real, or from the real, and the moral rectitude that belongs to it: but all this and all his resources of wit and invention are lost to me, in every experiment, year after year, that I make, to hold intercourse with his mind. Always some weary captious paradox to fight you with, and the time and temper wasted." "It is curious," he again says, "that Thoreau goes to a house to say with little preface what he has just read or observed, delivers it in a lump, is quite inattentive to any comment or thought which any of the company offer on the matter, nav, is merely interrupted by it, and when he has finished his report departs with precipitation."

It is interesting in this connection to put alongside of these rather caustic criticisms a remark in kind recorded by Thoreau in his Journal concerning Emerson: "Talked, or tried to talk, with R. W. E. Lost my time — nay, almost my iden-

tity. He, assuming a false opposition where there was no difference of opinion, talked to the wind — told me what I knew — and I lost my time trying to imagine myself somebody else to oppose him."

Evidently Concord philosophers were not always in concord.

More characteristic of Emerson is the incident Thoreau relates of his driving his own calf, which had just come in with the cows, out of the yard, thinking it belonged to a drove that was then going by. From all accounts Emerson was as slow to recognize his own thoughts when Alcott and Channing aired them before him as he was to recognize his own calf.

"I have got a load of great hardwood stumps," writes Thoreau, and then, as though following out a thought suggested by them, he adds: "For sympathy with my neighbors I might about as well live in China. They are to me barbarians with their committee works and gregariousness."

Probably the stumps were from trees that grew on his neighbors' farms and were a gift to him. Let us hope the farmers did not deliver them to him free of charge. He complained that the thousand and one gentlemen that he met were all alike; he was not cheered by the hope of any rudeness from them: "A cross man, a coarse man, an eccentric man, a silent man who does not drill well — of him there is some hope," he declares.

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Herein we get a glimpse of the Thoreau ideal which led his friend Alcott to complain that he lacked the human sentiment. He may or may not have been a "cross man," but he certainly did not "drill well," for which his readers have reason to be thankful. Although Thoreau upholds the cross and the coarse man, one would really like to know with what grace he would have put up with gratuitous discourtesy or insult. I remember an entry in his Journal in which he tells of feeling a little cheapened when a neighbor asked him to take some handbills and leave them at a certain place as he passed on his walk.

A great deal of the piquancy and novelty in Thoreau come from the unexpected turn he gives to things, upsetting all our preconceived notions. His trick of exaggeration he rather brags of: "Expect no trivial truth from me," he says, "unless I am on the witness stand." He even exaggerates his own tendency to exaggeration. It is all a part of his scheme to startle and wake people up. He exaggerates his likes, and he exaggerates his dislikes, and he exaggerates his indifference. It is a way he has of bragging. The moment he puts pen to paper the imp of exaggeration seizes it. He lived to see the beginning of the Civil War, and in a letter to a friend expressed his indifference in regard to Fort Sumter and "Old Abe," and all that, yet Mr. Sanborn says he was as zealous about the

war as any soldier. The John Brown tragedy made him sick, and the war so worked upon his feelings that in his failing state of health he said he could never get well while it lasted. His passion for Nature and the wild carried him to the extent of looking with suspicion, if not with positive dislike, upon all of man's doings and institutions. All civil and political and social organizations received scant justice at his hands. He instantly espoused the cause of John Brown and championed him in the most public manner because he (Brown) defied the iniquitous laws and fell a martyr to the cause of justice and right. If he had lived in our times, one would have expected him, in his letters to friends, to pooh-pooh the World War that has drenched Europe with blood, while in his heart he would probably have been as deeply moved about it as any of us were.

Thoreau must be a stoic, he must be an egotist, he must be illogical, whenever he puts pen to paper. This does not mean that he was a hypocrite, but it means that on his practical human side he did not differ so much from the rest of us, but that in his mental and spiritual life he pursued ideal ends with a seriousness that few of us are equal to. He loved to take an air-line. In his trips about the country to visit distant parts, he usually took the roads and paths or means of conveyance that other persons took, but now and then he would

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lay down his ruler on the map, draw a straight line to the point he proposed to visit, and follow that, going through the meadows and gardens and door-yards of the owners of the property in his line of march. There is a tradition that he and Channing once went through a house where the front and back door stood open. In his mental flights and excursions he follows this plan almost entirely; the hard facts and experiences of life trouble him very little. He can always ignore them or sail serenely above them.

How is one to reconcile such an expression as this with what his friends report of his actual life: "My countrymen are to me foreigners. I have but little more sympathy with them than with the mobs of India or China"? Or this about his Concord neighbors, as he looks down upon them from a near-by hill: "On whatever side I look off, I am reminded of the mean and narrow-minded men whom I have lately met there. What can be uglier than a country occupied by grovelling, coarse, and low-minded men? - no scenery can redeem it. Hornets, hyenas, and baboons are not so great a curse to a country as men of a similar character." Tried by his ideal standards, his neighbors and his countrymen generally were, of course, found wanting, yet he went about among them helpful and sympathetic and enjoyed his life to the last gasp. These things reveal to us what

a gulf there may be between a man's actual life and the high altitudes in which he disports himself when he lets go his imagination.

IX

In his paper called "Life without Principle," his radical idealism comes out: To work for money, or for subsistence alone, is life without principle. A man must work for the love of the work. Get a man to work for you who is actuated by love for you or for the work alone. Find some one to beat your rugs and carpets and clean out your well, or weed your onion-patch, who is not influenced by any money consideration. This were ideal, indeed; this suggests paradise. Thoreau probably loved his lecturing, and his surveying, and his magazine writing, and the money these avocations brought him did not seem unworthy, but could the business and industrial world safely adopt that principle?

So far as I understand him, we all live without principle when we do anything that goes against the grain, or for money, or for bread alone. "To have done anything by which you earned money is to have been truly idle or worse." "If you would get money as a writer or lecturer, you must be popular, which is to go down perpendicularly." Yet his neighbor Emerson was in much demand as a lecturer, and earned a good deal of money in

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that way. Truly idealists like Thoreau are hard to satisfy. Agassiz said he could not afford to give his time to making money, but how many Agassiz are there in the world at any one time? Such a man as our own Edison is influenced very little by the commercial value of his inventions. This is as it should be, but only a small fraction of mankind do or can live to ideal ends. Those who work for love are certainly the lucky ones, and are exceptionally endowed. It is love of the sport that usually sends one a-fishing or a-hunting, and this gives it the sanction of the Gospel according to Thoreau. Bradford Torrey saw a man sitting on a log down in Florida who told him, when he asked about his occupation, that he had no time to work! It is to be hoped that Thoreau enjoyed his surveying, as he probably did, especially when it took him through sphagnum swamps or scruboak thickets or a tangle of briers and thorns. The more difficult the way, the more he could summon his philosophy. "You must get your living by loving." It is a hard saving, but it is a part of his gospel. But as he on one occasion worked seventy-six days surveying, for only one dollar a day, the money he received should not be laid up against him.

As a matter of fact we find Thoreau frequently engaging in manual labor to earn a little money. He relates in his Journal of 1857 that while he was

living in the woods he did various jobs about town—fence-building, painting, gardening, carpentering:

One day a man came from the east edge of the town and said that he wanted to get me to brick up a fire-place, etc., etc., for him. I told him that I was not a mason, but he knew that I had built my own house entirely and would not take no for an answer. So I went.

It was three miles off, and I walked back and forth each day, arriving early and working as late as if I were living there. The man was gone away most of the time, but had left some sand dug up in his cow-yard for me to make mortar with. I bricked up a fireplace. papered a chamber, but my principal work was whitewashing ceilings. Some were so dirty that many coats would not conceal the dirt. In the kitchen I finally resorted to vellow-wash to cover the dirt. I took my meals there, sitting down with my employer (when he got home) and his hired men. I remember the awful condition of the sink, at which I washed one day, and when I came to look at what was called the towel I passed it by and wiped my hands on the air, and thereafter I resorted to the pump. I worked there hard three days, charging only a dollar a day.

About the same time I also contracted to build a wood-shed of no mean size, for, I think, exactly six dollars, and cleared about half of it by a close calculation and swift working. The tenant wanted me to throw in a gutter and latch, but I carried off the board that was left and gave him no latch but a button. It stands yet, — behind the Kettle house. I broke up Johnny Kettle's old "trow," in which he kneaded his bread, for material. Going home with what nails were left in a flower [sic!] bucket on my arm, in a rain, I was about getting into a hay-rigging, when my umbrella frightened the horse, and he kicked at me over the fills, smashed the bucket on my arm, and stretched me on my back;

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but while I lay on my back, his leg being caught under the shaft, I got up, to see him sprawling on the other side. This accident, the sudden bending of my body backwards, sprained my stomach so that I did not get quite strong there for several years, but had to give up some fence-building and other work which I had undertaken from time to time.

I built the common slat fence for \$1.50 per rod, or worked for \$1.00 per day. I built six fences.

These homely and laborious occupations show the dreamer and transcendentalist of Walden in a very interesting light. In his practical life he was a ready and resourceful man and could set his neighbors a good example, and no doubt give them good advice. But what fun he had with his correspondents when they wrote him for practical advice about the conduct of their lives! One of them had evidently been vexing his soul over the problem of Church and State: "Why not make a very large mud pie and bake it in the sun? Only put no Church nor State into it, nor upset any other pepper box that way. Dig out a woodchuck—for that has nothing to do with rotting institutions. Go ahead."

Dear, old-fashioned Wilson Flagg, who wrote pleasantly, but rather tamely, about New England birds and seasons, could not profit much from Thoreau's criticism: "He wants stirring up with a pole. He should practice turning a series of summer-sets rapidly, or jump up and see how many

times he can strike his feet together before coming down. Let him make the earth turn round now the other way, and whet his wits on it as on a grindstone; in short, see how many ideas he can entertain at once."

Expect no Poor Richard maxims or counsel from Thoreau. He would tell you to invest your savings in the bonds of the Celestial Empire, or plant your garden with a crop of Giant Regrets. He says these are excellent for sauce. He encourages one of his correspondents with the statement that he "never yet knew the sun to be knocked down and rolled through a mud puddle; he comes out honor bright from behind every storm."

X

ALL Thoreau's apparent inconsistencies and contradictions come from his radical idealism. In all his judgments upon men and things, and upon himself, he is an uncompromising idealist. All fall short. Add his habit of exaggeration and you have him saying that the pigs in the street in New York (in 1843) are the most respectable part of the population. The pigs, I suppose, lived up to the pig standard, but the people did not live up to the best human standards. Wherever the ideal leads him, there he follows. After his brother John's death he said he did not wish ever to see John

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again, but only the ideal John — that other John of whom he was but the imperfect representative. Yet the loss of the real John was a great blow to him, probably the severest in his life. But he never allows himself to go on record as showing any human weakness.

"Comparatively," he says, "we can excuse any offense against the heart, but not against the imagination." Thoreau probably lived in his heart as much as most other persons, but his peculiar gospel is the work of his imagination. He could turn his idealism to practical account. A man who had been camping with him told me that on such expeditions he carried a small piece of cake carefully wrapped up in his pocket and that after he had eaten his dinner he would take a small pinch of this cake. His imagination seemed to do the rest.

The most unpromising subject would often kindle the imagination of Thoreau. His imagination fairly runs riot over poor Bill Wheeler, a cripple and a sot who stumped along on two clumps for feet, and who earned his grog by doing chores here and there. One day Thoreau found him asleep in the woods in a low shelter which consisted of meadow hay cast over a rude frame. It was a rare find to Thoreau. A man who could turn his back upon the town and civilization like that must be some great philosopher, greater than

Socrates or Diogenes, living perhaps "from a deep principle," "simplifying life, returning to nature," having put off many things, — "luxuries, comforts, human society, even his feet, — wrestling with his thoughts." He outdid himself. He out-Thoreaued Thoreau: "Who knows but in his solitary meadow-hay bunk he indulges, in thought, only in triumphant satires on men? [More severe than those of the Walden hermit?] I was not sure for a moment but here was a philosopher who had left far behind him the philosophers of Greece and India, and I envied him his advantageous point of view — " with much more to the same effect.

Thoreau's reaction from the ordinary humdrum, respectable, and comfortable country life was so intense, and his ideal of the free and austere life he would live so vivid, that he could thus see in this besotted vagabond a career and a degree of wisdom that he loved to contemplate.

One catches eagerly at any evidence of tender human emotions in Thoreau, his stoical indifference is so habitual with him: "I laughed at myself the other day to think that I cried while reading a pathetic story." And he excuses himself by saying, "It is not I, but Nature in me, which was stronger than I."

It was hard for Thoreau to get interested in young women. He once went to an evening party

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of thirty or forty of them, "in a small room, warm and noisy." He was introduced to two of them, but could not hear what they said, there was such a cackling. He concludes by saying: "The society of young women is the most unprofitable I have ever tried. They are so light and flighty that you can never be sure whether they are there or not."

XI

As a philosopher or expositor and interpreter of a principle, Thoreau is often simply grotesque. His passion for strong and striking figures usually gets the best of him. In discussing the relation that exists between the speaker or lecturer and his audience he says, "The lecturer will read best those parts of his lecture which are best heard," as if the reading did not precede the hearing! Then comes this grotesque analogy: "I saw some men unloading molasses-hogsheads from a truck at a depot the other day, rolling them up an inclined plane. The truckman stood behind and shoved. after putting a couple of ropes, one round each end of the hogshead, while two men standing in the depot steadily pulled at the ropes. The first man was the lecturer, the last was the audience." I suppose the hogshead stands for the big thoughts of the speaker which he cannot manage at all without the active cooperation of the audience. The

truth is, people assemble in a lecture hall in a passive but expectant frame of mind. They are ready to be pleased or displeased. They are there like an instrument to be played upon by the orator. He may work his will with them. Without their sympathy his success will not be great, but the triumph of his art is to win their sympathy. Those who went to scoff when the Great Preacher spoke, remained to pray. No man could speak as eloquently to empty seats, or to a dummy audience, as to a hall filled with intelligent people, yet Thoreau's ropes and hogsheads and pulling and pushing truckmen absurdly misrepresent the true relation that exists between a speaker and his hearers. Of course a speaker finds it uphill work if his audience is not with him, but that it is not with him is usually his own fault.

Thoreau's merits as a man and a writer are so many and so great that I have not hesitated to make much of his defects. Indeed, I have with malice aforethought ransacked his works to find them. But after they are all charged up against him, the balance that remains on the credit side of the account is so great that they do not disturb us.

There has been but one Thoreau, and we should devoutly thank the gods of New England for the precious gift. Thoreau's work lives and will continue to live because, in the first place, the world loves a writer who can flout it and turn his back

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upon it and yet make good; and again because the books which he gave to the world have many and very high literary and ethical values. They are fresh, original, and stimulating. He drew a gospel out of the wild; he brought messages from the wood gods to men; he made a lonely pond in Massachusetts a fountain of the purest and most elevating thoughts, and, with his great neighbor Emerson, added new luster to a town over which the muse of our colonial history had long loved to dwell.

IV

A CRITICAL GLANCE INTO DARWIN

I

It is never safe to question Darwin's facts, but it is always safe to question any man's theories. It is with Darwin's theories that I am mainly concerned here. He has already been shorn of his selection doctrines as completely as Samson was shorn of his locks, but there are other phases of his life and teachings that invite discussion.

The study of Darwin's works begets such an affection for the man, for the elements of character displayed on every page, that one is slow in convincing one's self that anything is wrong with his theories. There is danger that one's critical judgment will be blinded by one's partiality for the man.

For the band of brilliant men who surrounded him and championed his doctrines — Spencer, Huxley, Lyall, Hooker, and others — one feels nothing more personal than admiration; unless the eloquent and chivalrous Huxley — the knight in shining armor of the Darwinian theory — inspires a warmer feeling. Darwin himself almost

disarms one by his amazing candor and his utter self-abnegation. The question always paramount in his mind is, What is the truth about this matter? What fact have you got for me, he seems to say, that will upset my conclusion? If you have one, that is just what I am looking for.

Could we have been permitted to gaze upon the earth in the middle geologic period, in Jurassic or Triassic times, we should have seen it teeming with huge, uncouth, gigantic forms of animal life, in the sea, on the land, and in the air, and with many lesser forms, but with no sign of man anywhere; ransack the earth from pole to pole and there was no sign or suggestion, so far as we could have seen, of a human being.

Come down the stream of time several millions of years — to our own geologic age — and we find the earth swarming with the human species like an ant-hill with ants, and with a vast number of forms not found in the Mesozoic era; and the men are doing to a large part of the earth what the ants do to a square rod of its surface. Where did they come from? We cannot, in our day, believe that a hand reached down from heaven, or up from below, and placed them there. There is no alternative but to believe that in some way they arose out of the antecedent animal life of the globe; in other words that man is the result of the process of evolution, and that all other existing forms of life,

vegetable and animal, are a product of the same movement.

To explain how this came about, what factors and forces entered into the transformation, is the task that Darwin set himself. It was a mighty task, and whether or not his solution of the problem stands the test of time, we must yet bow in reverence before one of the greatest of natural philosophers; for even to have conceived this problem thus clearly, and to have placed it in intelligible form before men's minds, is a great achievement.

Darwin was as far from being as sure of the truth of Darwinism as many of his disciples were, and still are. He said in 1860, in a letter to one of his American correspondents, "I have never for a moment doubted that, though I cannot see my errors, much of my book ["The Origin of Species"] will be proved erroneous." Again he said, in 1862, "I look at it as absolutely certain that very much in the 'Origin' will be proved rubbish; but I expect and hope that the framework will stand."

Its framework is the theory of Evolution, which is very sure to stand. In its inception his theory is half-miracle and half-fact. He assumes that in the beginning (as if there ever was or could be a "beginning," in that sense) God created a few forms, animal and vegetable, and then left it to the gods of Evolution, the chief of which is Natural

Selection, to do the rest. While Darwin would not admit any predetermining factors in Evolution, or that any innate tendency to progressive development existed, he said he could not look upon the world of living things as the result of chance. Yet in fortuitous, or chance, variation he saw one of the chief factors of Evolution.

The world of Chance into which Darwinism delivers us — what can the thoughtful mind make of it?

That life with all its myriad forms is the result of chance is, according to Professor Osborn, a bio-He everywhere uses the word logical dogma. "chance" as opposed to law, or to the sequence of cause and effect. This, it seems to me, is a misuse of the term. Is law, in this sense, ever suspended or annulled? If one chances to fall off his horse or his house, is it not gravity that pulls him down? Are not the laws of energy everywhere operative in all movements of matter in the material world? Chance is not opposed to law, but to design. Anvthing that befalls us that was not designed is a matter of chance. The fortuitous enters largely into all human life. If I carelessly toss a stone across the road, it is a matter of chance just where it will fall, but its course is not lawless. Does not gravity act upon it? does not the resistance of the air act upon it? does not the muscular force of my arm act upon it? and does not this complex of

physical forces determine the precise spot where the stone shall fall? If, in its fall, it were to hit a bird or a mouse or a flower, that would be a matter of chance, so far as my will was concerned. Is not a meteoric stone falling out of space acted upon by similar forces, which determine where it shall strike the earth? In this case, we must substitute for the energy of my arm the cosmic energy that gives the primal impetus to all heavenly bodies. If the falling aërolite were to hit a person or a house, we should say it was a matter of chance, because it was not planned or designed. But when the shells of the long-range guns hit their invisible target or the bombs from the airplanes hit their marks, chance plays a part, because all the factors that enter into the problem are not and cannot be on the instant accurately measured. The collision of two heavenly bodies in the depth of space, which does happen, is, from our point of view, a matter of chance, although governed by inexorable law.

The forms of inanimate objects — rocks, hills, rivers, lakes — are matters of chance, since they serve no purpose: any other form would be as fit; but the forms of living things are always purposeful. Is it possible to believe that the human body, with all its complicated mechanism, its many wonderful organs of secretion and excretion and assimilation, is any more matter of chance

than a watch or a phonograph is? Though what agent to substitute for the word "chance," I confess I do not know. The short cut to an omnipotent Creator sitting apart from the thing created will not satisfy the naturalist. And to make energy itself creative, as Professor Osborn does, is only to substitute one god for another. I can no more think of the course of organic evolution as being accidental in the Darwinian sense, than I can think of the evolution of the printing-press or the aëroplane as being accidental, although chance has played its part. Can we think of the first little horse of which we have any record, the eohippus of three or four millions of years ago, as evolving by accidental variations into the horse of our time. without presupposing an equine impulse to development? As well might we trust our ships to the winds and waves with the expectation that they will reach their several ports.

Are we to believe that we live in an entirely mechanical and fortuitous world — a world which has no interior, which is only a maze of acting, reacting, and interacting of blind physical forces? According to the chance theory, the struggle of a living body to exist does not differ from the vicissitudes of, say, water seeking an equilibrium, or heat a uniform temperature.

Chance has played an important part in human history, and in all life-history — often, no doubt,

the main part — since history began. It was by chance that Columbus discovered America; he simply blundered upon it. He had set out on his voyage with something quite different in view. But his ship, and the crew, and the voyage itself, were not matters of chance but of purpose.

According to the selectionists' theory, chance gave the bird its wings, the fish its fins, the porcupine its quills, the skunk its fetid secretion, the cuttlefish its ink, the swordfish its sword, the electric eel its powerful battery; it gave the giraffe its long neck, the camel its hump, the horse its hoof, the ruminants their horns and double stomach, and so on. According to Weismann, it gave us our eyes, our ears, our hands with the fingers and opposing thumb, it gave us all the complicated and wonderful organs of our bodies, and all their circulation, respiration, digestion, assimilation, secretion, excretion, reproduction. All we are, or can be, the selectionist credits to Natural Selection.

Try to think of that wonderful organ, the eye, with all its marvelous powers and adaptations, as the result of what we call chance or Natural Selection. Well may Darwin have said that the eye made him shudder when he tried to account for it by Natural Selection. Why, its adaptations in one respect alone, minor though they be, are

enough to stagger any number of selectionists. I refer to the rows of peculiar glands that secrete an oily substance, differing in chemical composition from any other secretion, a secretion which keeps the eyelids from sticking together in sleep. "Behavior as lawless as snowflakes," says Whitman—a phrase which probably stuck to him from Rousseau; but are snowflakes and raindrops lawless? To us creatures of purpose, they are so because the order of their falling is haphazard. They obey their own laws. Again we see chance working inside of law.

When the sower scatters the seed-grains from his hand, he does not and cannot determine the point of soil upon which any of them shall fall, but there is design in his being there and in sowing the seed. Astronomy is an exact science, biology is not. The celestial events always happen on time. The astronomers can tell us to the fraction of a second when the eclipses of the sun and moon and the transit of the inferior planets across the sun's disk will take place. They know and have measured all the forces that bring them about. Now, if we knew with the same mathematical precision all the elements that enter into the complex of forces which shapes our lives, could we forecast the future with the same accuracy with which the astronomers forecast the movements of the orbs? or are there incommensurable factors in life?

II

How are we to reconcile the obvious hit-and-miss method of Nature with the reign of law, or with a world of design? Consider the seeds of a plant or a tree, as sown by the wind. It is a matter of chance where they alight; it is hit or miss with them always. Yet the seeds, say, of the cat-tail flag always find the wet or the marshy places. If they had a topographical map of the country and a hundred eyes they could not succeed better. Of course, there are vastly more failures than successes with them, but one success in ten thousand trials is enough. They go to all points of the compass with the wind, and sooner or later hit the mark. Chance decides where the seed shall fall. but it was not chance that gave wings to this and other seeds. The hooks and wings and springs and parachutes that wind-sown seeds possess are not matters of chance: they all show design. here is design working in a hit-and-miss world.

There are chance details in any general plan. The general forms which a maple or an oak or an elm takes in the forest or in the field are fixed, but many of the details are quite accidental. All the individual trees of a species have a general resemblance, but one differs from another in the number and exact distribution of the branches, and in many other ways. We cannot solve the fundamental problems of biology by addition and

subtraction. He who sees nothing transcendent and mysterious in the universe does not see deeply; he lacks that vision without which the people perish. All organic and structural changes are adaptive from the first; they do not need natural selection to whip them into shape. All it can do is to serve as a weeding-out process.

Acquired characters are not inherited, but those organic changes which are the result of the indwelling impulse of development are inherited. So dominant and fundamental are the results of this impulse that cross-breeding does not wipe them out.

Ш

While I cannot believe that we live in a world of chance, any more than Darwin could, yet I feel that I am as free from any teleological taint as he was. The world-old notion of a creator and director, sitting apart from the universe and shaping and controlling all its affairs, a magnified king or emperor, finds no lodgment in my mind. Kings and despots have had their day, both in heaven and on earth. The universe is a democracy. The Whole directs the Whole. Every particle plays its own part, and yet the universe is a unit as much as is the human body, with all its myriad of individual cells, and all its many separate organs functioning in harmony. And the mind I see in nature is just as obvious as the

mind I see in myself, and subject to the same imperfections and limitations.

In following Lamarck I am not disturbed by the bogey of teleology, or the ghost of mysticism. I am persuaded that there is something immanent in the universe, pervading every atom and molecule in it, that knows what it wants — a Cosmic Mind or Intelligence that we must take account of if we would make any headway in trying to understand the world in which we find ourselves.

When we deny God it is always in behalf of some other god. We are compelled to recognize something not ourselves from which we proceed. and in which we live and move and have our being, call it energy, or will, or Jehovah, or Ancient of Days. We cannot deny it because we are a part of it. As well might the fountain deny the sea or the cloud. Each of us is a fraction of the universal Eternal Intelligence. Is it unscientific to believe that our own minds have their counterpart or their origin in the nature of which we form a part? Is our own intelligence all there is of mind-manifestation in the universe? Where did we get this divine gift? Did we take all there was of it? Certainly we did not ourselves invent it. It would require considerable wit to do that. Mind is immanent in nature, but in man alone it becomes self-conscious. Wherever there is adaptation of means to an end, there is mind.

Yet we use the terms "guidance," "predetermination," and so on, at the risk of being misunderstood. All such terms are charged with the meaning that our daily lives impart to them and, when applied to the processes of the Cosmos, are only half-truths. From our experience with objects and forces in this world, the earth ought to rest upon something, and that object upon something, and the moon ought to fall upon the earth, and the earth fall into the sun, and, in fact, the whole sidereal system ought to collapse. But it does not, and will not. As nearly as we can put it into words, the whole visible universe floats in a boundless and fathomless sea of energy; and that is all we know about it.

If chance brought us here and endowed us with our bodies and our minds, and keeps us here, and adapts us to the world in which we live, is not Chance a good enough god for any of us? Or if Natural Selection did it, or orthogenesis or epigenesis, or any other genesis, have we not in any of these found a god equal to the occasion? Darwin goes wrong, if I may be allowed to say so, when he describes or characterizes the activities of Nature in terms of our own activities. Man's selection affords no clue to Nature's selection, and the best to man is not the best to Nature. For instance, she is concerned with color and form only so far as they have survival value. We are concerned more with intrinsic values.

"Man," says Darwin, "selects only for his own good; Nature only for the good of the being which she tends." But Nature's good is of another order than man's: it is the good of all. Nature aims at a general good, man at a particular good to himself. Man waters his garden; Nature sends the rain broadcast upon the just and the unjust, upon the sea as upon the land. Man directs and controls his planting and his harvesting along specific lines: he selects his seed and prepares his soil; Nature has no system in this respect: she trusts her seeds to the winds and the waters, and to beasts and birds, and her harvest rarely fails.

Nature's methods, we say, are blind, haphazard; the wind blows where it listeth, and the seeds fall where the winds and waters carry them; the frosts blight this section and spare that; the rains flood the country in the West and the drought burns up the vegetation in the East. And yet we survive and prosper. Nature averages up well. We see nothing like purpose or will in her total scheme of things, yet inside her hit-and-miss methods, her storms and tornadoes and earthquakes and distempers, we see a fundamental benefaction. If it is not good-will, it amounts to the same thing. Our fathers saw special providences, but we see only unchangeable laws. To compare Nature's selection with man's selection is like arguing from

man's art to Nature's art. Nature has no art, no architecture, no music. Her temples, as the poets tell us, are the woods, her harps the branches of the trees, her minstrels the birds and insects, her gardens the fields and waysides—all safe comparisons for purposes of literature, but not for purposes of science.

Man alone selects, or works by a definite method. Might we not as well say that Nature ploughs and plants and trims and harvests? We pick out our favorites among plants and animals, those that best suit our purpose. We go straight to our object, with as little delay and waste as possible. Not so Nature. Her course is always a roundabout one. Our petty economies are no concern of hers. Our choice selection of rich milkers, prolific poultry, or heavy-fleeced sheep is with her quickly sacrificed for the qualities of strength and cunning and speed, as these alone have survival value. Man wants specific results at once. Nature works slowly to general results. Her army is drilled only in battle. Her tools grow sharper in the using. The strength of her species is the strength of the obstacles they overcome.

What is called Darwinism is entirely an anthropomorphic view of Nature — Nature humanized and doing as man does. What is called Natural Selection is man's selection read into animate nature. We see in nature what we have to call

intelligence — the adaptation of means to ends. We see purpose in all living things, but not in the same sense in non-living things. The purpose is not in the light, but in the eye; in the ear, but not in the sound; in the lungs, and not in the air; in the stomach, and not in the food; in the various organs of the body, and not in the forces that surround and act upon it. We cannot say that the purpose of the clouds is to bring rain, or of the sun to give light and warmth, in the sense that we can say it is the purpose of the eyelid to protect the eye, of the teeth to masticate the food, or of the varnish upon the leaves to protect the leaves.

The world was not made for us, but we are here because the world was made as it is. We are the secondary fact and not the primary. Nature is non-human, non-moral, non-religious, non-scientific, though it is from her that we get our ideas of all these things. All parts and organs of living bodies have, or have had, a purpose. Nature is blind, but she knows what she wants and she gets it. She is blind, I say, because she is all eyes, and sees through the buds of her trees and the rootlets of her plants as well as by the optic nerves in her animals. And, though I believe that the accumulation of variations is the key to new species, yet this accumulation is not based upon outward utility but upon an innate tendency to development the push of life, or creative evolution, as Bergson

names it; not primarily because the variations are advantages, but because the formation of a new species is such a slow process, stretches over such a period of geologic time, that the slight variations from generation to generation could have no survival value. The primary factor is the inherent tendency to development. The origin of species is on a scale of time of enormous magnitude. What takes place among our domestic animals of a summer day is by no means a safe guide as to what befell their ancestors in the abysses of geologic time. It is true that Nature may be read in the little as well as in the big, - Natura in minimis existat, - in the gnat as well as in the elephant; but she cannot be read in our yearly calendars as she can in the calendars of the geologic strata. Species go out and species come in; the book of natural revelation opens and closes at chance places, and rarely do we get a continuous record - in no other case more clearly than in that of the horse.

The horse was a horse, from the first five-toed animal in Eocene times, millions of years ago, through all the intermediate forms of four-toed and three-toed, down to the one-toed superb creature of our own day. Amid all the hazards and delays of that vast stretch of time, one may say, the horse-impulse never faltered. The survival value of the slight gains in size and strength from millennium

to millennium could have played no part. It was the indwelling necessity toward development that determined the issue. This assertion does not deliver us into the hands of teleology, but is based upon the idea that ontogeny and phylogeny are under the same law of growth. In the little eohippus was potentially the horse we know, as surely as the oak is potential in the acorn, or the bird potential in the egg, whatever element of mystery may enter into the problem.

In fields where speed wins, the fleetest are the fittest. In fields where strength wins, the strongest are the fittest. In fields where sense-acuteness wins, the keenest of eye, ears, and nose are the fittest.

When we come to the race of man, the fittest to survive, from our moral and intellectual point of view, is not always the best. The lower orders of humanity are usually better fitted to survive than the higher orders — they are much more prolific and adaptive. The tares are better fitted to survive than the wheat. Every man's hand is against the weeds, and every man's hand gives a lift to the corn and the wheat, but the weeds do not fail. There is nothing like original sin to keep a man or a plant going. Emerson's gardener was probably better fitted to survive than Emerson; Newton's butler than Newton himself.

Most naturalists will side with Darwin in re-

jecting the idea of Asa Gray, that the stream of variation has been guided by a higher power, unless they think of the will of this power as inherent in every molecule of matter; but guidance in the usual theological sense is not to be thought of; the principle of guidance cannot be separated from the thing guided. It recalls a parable of Charles Kingsley's which he related to Huxley. A heathen khan in Tartary was visited by a pair of proselytizing moollahs. The first moollah said, "O Khan, worship my god. He is so wise that he made all things!" Moollah Number Two said, "O Khan, worship my god. He is so wise that he makes all things make themselves!" Number Two won the day.

IV

How often it turns out that a man's minor works outlive his major! This is true in both literature and science, but more often in the former than in the latter. Darwin furnishes a case in the field of science. He evidently looked upon his "Origin of Species" as his great contribution to biological science; but it is highly probable that his "Voyage of the Beagle" will outlast all his other books. The "Voyage" is of perennial interest and finds new readers in each generation. I find myself rereading it every eight or ten years. I have lately read it for the fourth time. It is not an argument or a polemic; it is a personal narrative of a disin-

terested yet keen observer, and is always fresh and satisfying. For the first time we see a comparatively unknown country like South America through the eyes of a born and trained naturalist. It is the one book of his that makes a wide appeal and touches life and nature the most closely.

We may say that Darwin was a Darwinian from the first, — a naturalist and a philosopher combined, — and was predisposed to look at animate nature in the way his works have since made us familiar with.

In his trip on the Beagle he saw from the start with the eves of a born evolutionist. In South America he saw the fossil remains of the Toxodon. and observed. "How wonderful are the different orders, at the present time so well separated, blended together in the different points of the structure of the Toxodon!" All forms of life attracted him. He looked into the brine-pans of Lymington and found that water with one quarter of a pound of salt to the pint was inhabited, and he was led to say: "Well may we affirm that every part of the world is habitable! Whether lakes of brine or those subterranean ones hidden beneath volcanic mountains, - warm mineral springs, - the wide expanse and depth of the ocean, - the upper regions of the atmosphere, and even the surface of perpetual snow, — all support organic beings."

He studies the parasitical habit of the cuckoo

and hits on an explanation of it. He speculates why the partridges and deer in South America are so tame.

His "Voyage of the Beagle" alone would insure him lasting fame. It is a classic among scientific books of travel. Here is a traveler of a new kind: a natural-history voyager, a man bent on seeing and taking note of everything going on in nature about him, in the non-human, as well as in the human world. The minuteness of his observation and the significance of its subject-matter are a lesson to all observers. Darwin's interests are so varied and genuine. One sees in this volume the seed-bed of much of his subsequent work. He was quite a young man (twenty-four) when he made this voyage; he was ill more than half the time; he was as yet only an observer and appreciator of Nature, quite free from any theories about her ways and methods. He says that this was by far the most important event of his life and determined his whole career. His theory of descent was already latent in his mind, as is evinced by an observation he made about the relationship in South America between the extinct and the living forms. "This relationship," he said, "will, I do not doubt, hereafter throw more light on the appearance of organic beings on our earth, and their disappearance from it, than any other class of facts."

He looked into the muddy waters of the sea off the coast of Chile, and found a curious new form of minute life — microscopic animals that exploded as they swam through the water. In South America he saw an intimate relationship between the extinct species of ant-eaters, armadillos, tapirs, peccaries, guanacos, opossums, and so on, and the living species of these animals; and he adds that the wonderful relationship in the same continent between the dead and the living would doubtless hereafter throw more light on the appearance of organic beings on our earth, and their disappearance from it, than any other class of facts.

His observation of the evidences of the rise and fall of thousands of feet of the earth along the Cordilleras leads him to make this rather startling statement: "Daily it is forced home on the mind of the geologist that nothing, not even the wind that blows, is so unstable as the level of the crust of the earth."

There is now and then a twinkle of humor in Darwin's eyes, as when he says that in the high altitude of the Andes the inhabitants recommend onions for the "puna," or shortness of breath, but that he found nothing so good as fossil shells.

Water boils at such a low temperature in the high Andes that potatoes will not cook if boiled all night. Darwin heard his guides discussing the cause. "They had come to the simple conclusion

that 'the cursed pot' (which was a new one) did not choose to boil potatoes."

In all Darwin's record we see that the book of nature, which ordinary travelers barely glance at, he opened and carefully perused.

V

NATURAL SELECTION turns out to be of only secondary importance. It is not creative, but only confirmative. It is a weeding-out process; it is Nature's way of improving the stock. Its tendency is to make species more and more hardy and virile. The weak and insufficiently endowed among all forms tend to drop out. Life to all creatures is more or less a struggle, a struggle with the environment, with the inorganic forces, storm, heat, cold, sterile land, and engulfing floods, and it is a struggle with competing forms for food and shelter and a place in the sun. The strongest, the most amply endowed with what we call vitality or power to live, win. Species have come to be what they are through this process. Immunity from disease comes through this fight for life; and adaptability - through trial and struggle species adapt themselves, as do our own bodies, to new and severe conditions. The naturally weak fall by the wayside as in an army on a forced march.

Every creature becomes the stronger by the opposition it overcomes. Natural Selection gives

speed, where speed is the condition of safety, strength where strength is the condition, keenness and quickness of sense-perception where these are demanded. Natural Selection works upon these attributes and tends to perfect them. Any group of men or beasts or birds brought under any unusual strain from cold, hunger, labor, effort, will undergo a weeding-out process. Populate the land with more animal life than it can support, or with more vegetable forms than it can sustain, and a weeding-out process will begin. A fuller measure of vitality, or a certain hardiness and toughness, will enable some species to hold on longer than others, and, maybe, keep up the fight till the struggle lessens and victory is won.

The flame of life is easily blown out in certain forms, and is very tenacious in others. How unequally the power to resist cold, for instance, seems to be distributed among plants and trees, and probably among animals! One spring an unseasonable cold snap in May (mercury 28) killed or withered about one per cent of the leaves on the lilacs, and one tenth of one per cent of the leaves of our crab-apple tree. In the woods around Slabsides I observed that nearly half the plants of Solomon's-seal (Polygonatum) and false Solomon's-seal (Smilacina) were withered. The vital power, the power to live, seems stronger in some plants than in others of the same kind. I suppose this

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law holds throughout animate nature. When a strain of any kind comes, these weaker ones drop out. In reading the stories of Arctic explorers, I see this process going on among their dog-teams: some have greater power of endurance than others. A few are constantly dropping out or falling by the wayside. With an army on a forced march the same thing happens. In the struggle for existence the weak go to the wall. Of course the struggle among animals is at least a toughening process. It seems as if the old Indian legend, that the strength of the foe overcome passes into the victor, were true. But how a new species could arrive as the result of such struggle is past finding out. Variation with all forms of life is more or less constant, but it is around a given mean. Only those acquired characters are transmitted that arise from the needs of the organism.

A vast number of changes in plants and animals are superficial and in no way vital. It is hard to find two leaves of the same tree that will exactly coincide in all their details; but a difference that was in some way a decided advantage would tend to be inherited and passed along. It is said that the rabbits in Australia have developed a longer and stronger nail on the first toe of each front foot, which aids them in climbing over the wire fences. The aye-aye has a specially adapted finger for extracting insects from their hiding-places. Un-

doubtedly such things are inherited. The snowshoes of the partridge and rabbit are inherited. The needs of the organism influence structure. The spines in the quills in the tails of woodpeckers. and in the brown creeper, are other cases in point. The nuthatch has no spines on its tail, because it can move in all directions, as well with head down as with head up. I have read of a serpent somewhere that feeds upon eggs. As the serpent has no lips or distendable cheeks, and as its mechanism of deglutition acts very slowly, an egg crushed in the mouth would be mostly spilled. So the eggs are swallowed whole; but in the throat they come in contact with sharp tooth-like spines, which are not teeth, but downward projections from the backbone, and which serve to break the shells of the eggs. Radical or vital variations are rare, and we do not witness them any more than we witness the birth of a new species. And that is all there is to Natural Selection. It is a name for a process of elimination which is constantly going on in animate nature all about us. It is in no sense creative, it originates nothing, but clinches and toughens existing forms.

The mutation theory of De Vries is a much more convincing theory of the origin of species than is Darwin's Natural Selection. If things would only mutate a little oftener! But they seem very reluctant to do so. There does seem to have been some

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mutation among plants, — De Vries has discovered several such, — but in animal life where are the mutants? When or where has a new species originated in this way? Surely not during the historic period.

Fluctuations are in all directions around a center—the mean is always returned to; but mutations, or the progressive steps in evolution, are divergent lines away from the center. Fluctuations are superficial and of little significance; but mutations, if they occur, involve deep-seated, fundamental factors, factors more or less responsive to the environment, but not called into being by it. Of the four factors in the Darwinian formula,—variation, heredity, the struggle, and natural selection,—variation is the most negligible; it furnishes an insufficient handle for selection to take hold of. Something more radical must lead the way to new species.

As applied to species, the fittest to survive is a misleading term. All are fit to survive from the fact that they do survive. In a world where, as a rule, the race is to the swift and the battle to the strong, the slow and the frail also survive because they do not come in competition with the swift and the strong. Nature mothers all, and assigns to each its sphere.

The Darwinians are hostile to Lamarck with his inner developing and perfecting principle, and,

by the same token, to Aristotle, who is the father of the theory. They regard organic evolution as a purely mechanical process.

Variation can work only upon a variable tendency — an inherent impulse to development. A rock, a hill, a stream, may change, but it is not variable in the biological sense: it can never become anything but a rock, a hill, a stream; but a flower, an egg, a seed, a plant, a baby, can. What I mean to say is that there must be the primordial tendency to development which Natural Selection is powerless to beget, and which it can only speed up or augment. It cannot give the wing to the seed, or the spring, or the hook; or the feather to the bird; or the scale to the fish; but it can perfect all these things. The fittest of its kind does stand the best chance to survive.

VI

AFTER we have Darwin shorn of his selection theories, what has he left? His significance is not lessened. He is still the most impressive figure in modern biological science. His attitude of mind, the problems he tackled, his methods of work, the nature and scope of his inquiries, together with his candor, and his simplicity and devotion to truth, are a precious heritage to all mankind.

Darwin's work is monumental because he belongs to the class of monumental men. The doc-

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trine of evolution as applied to animate nature reached its complete evolution in his mind. He stated the theory in broader and fuller terms than had any man before him; he made it cover the whole stupendous course of evolution. He showed man once for all an integral part of the zoölogic system. He elevated natural history, or biology, to the ranks of the great sciences, a worthy member of the triumvirate — astronomy, geology, biology. He taught us how to cross-question the very gods of life in their council chambers; he showed us what significance attaches to the simplest facts of natural history.

Darwin impresses by his personality not less than by his logic and his vast storehouse of observations. He was a great man before he was a great natural-history philosopher. His patient and painstaking observation is a lesson to all nature students. The minutest facts engaged him. He studies the difference between the stamens of the same plant. He counted nine thousand seeds, one by one, from artificially fertilized pods. Plants from two pollens, he says, grow at different rates. Any difference in the position of the pistil, or in the size and color of the stamens, in individuals of the same species grown together, was of keen interest to him.

The best thing about Darwinism is Darwin—his candor, his patience, his simplicity, his devotion to truth, and his power of observation. This

is about what Professor T. H. Morgan meant when he said: "It is the spirit of Darwinism, not its formulæ, that we proclaim as our best heritage." He gave us a new point of view of the drama of creation; he gave us ideas that are applicable to the whole domain of human activities. It is true, he was not a pioneer in this field: he did not blaze the first trail through this wilderness of biological facts and records: rather was he like a masterengineer who surveys and establishes the great highway. All the world now travels along the course he established and perfected. He made the long road of evolution easy, and he placed upon permanent foundations the doctrine of the animal origin of man. He taught the world to think in terms of evolution, and he pointed the way to a rational explanation of the diversity of living forms.

V

WHAT MAKES A POEM?

Pope said that a middling poet was no poet at all. Middling things in art or in any field of human endeavor do not arouse our enthusiasm, and it is enthusiasm that fans the fires of life. There are all degrees of excellence, but in poetry one is always looking for the best. Pope himself holds a place in English literature which he could not hold had he been only a middling poet. He is not a poet of the highest order certainly, but a poet of the third or fourth order — the poet of the reason, the understanding, but not of the creative imagination. It is wit and not soul that keeps Pope alive.

Nearly every age and land has plenty of middling poets. Probably there were never more of them in the land than there are to-day. Scores of volumes of middling verse are issued from the press every week. The magazines all have middling verse; only at rare intervals do they have something more. The May "Atlantic," for instance, had a poem by a (to me) comparatively new writer, Olive Tilford Dargan, that one would hardly stigmatize as middling poetry. Let the reader judge

for himself. It is called "Spring in the Study." I quote only the second part:

"What is this sudden gayety that shakes the grayest boughs? A voice is calling fieldward — "T is time to start the ploughs! To set the furrows rolling, while all the old crows nod; And deep as life, the kernel, to cut the golden sod.

The pen — let nations have it; — we'll plough a while for God.

"When half the things that must be done are greater than our art,

And half the things that must be done are smaller than our heart,

And poorest gifts are dear to burn on altars unrevealed, Like music comes the summons, the challenge from the weald! 'They tread immortal measures who make a mellow field!'

"The planet's rather pleasant, alluring in its way; But let the ploughs be idle and none of us can stay. Here's where there is no doubting, no ghosts uncertain stalk, A-traveling with the plough beam, beneath the sailing hawk, Cutting the furrow deep and true where Destiny will walk."

Lafcadio Hearn spoke with deep truth when he said that "the measure of a poet is the largeness of thought which he can bring to any subject, however trifling." Certainly Mrs. Dargan brings this largeness of thought to her subject. Has the significance of the plough ever before been so brought out? She makes one feel that there should be a plough among the constellations. What are the chairs and harps and dippers in comparison?

The poetry of mere talent is always middling poetry—"poems distilled from other poems," as Whitman says. The work of a genius is of a different order. Most current verse is merely

sweetened prose put up in verse form. It serves its purpose; the mass of readers like it. Nearly all educated persons can turn it off with little effort. I have done my share of it myself—rhymed natural history, but not poetry. "Waiting" is my nearest approach to a true poem.

Wordsworth quotes Aristotle as saying that poetry is the most philosophical of all writing. and Wordsworth agrees with him. There certainly can be no great poetry without a great philosopher behind it - a man who has thought and felt profoundly upon nature and upon life, as Wordsworth himself surely had. The true poet, like the philosopher, is a searcher after truth, and a searcher at the very heart of things - not cold, objective truth, but truth which is its own testimony, and which is carried alive into the heart by passion. He seeks more than beauty, he seeks the perennial source of beauty. The poet leads man to nature as a mother leads her child there - to instill a love of it into his heart. If a poet adds neither to my knowledge nor to my love, of what use is he? For instance, Poe does not make me know more or love more, but he delights me by his consummate art. Bryant's long poem "The Ages" has little value, mainly because it is charged with no philosophy, and no imaginative emotion. His "Lines to a Waterfowl" will last because of the simple, profound human emotion they awaken.

The poem is marred, however, by the stanza that he tacks on the end, which strikes a note entirely foreign to the true spirit of the poem. You cannot by tacking a moral to a poem give it the philosophical breadth to which I have referred. "Thanatopsis" has a solemn and majestic music, but not the unique excellence of the waterfowl poem. Yet it may be generally said of Bryant that he has a broad human outlook on life and is free from the subtleties and ingenious refinements of many of our younger poets.

I know of only three poets in this century who bring a large measure of thought and emotion to their task. I refer to William Vaughn Moody, to John Russell McCarthy (author of "Out-of-Doors" and "Gods and Devils"), and to Robert Loveman, best known for his felicitous "Rain Song," a poem too well known to be quoted here. Any poet who has ever lived might have been proud to have written that poem. It goes as lightly as thistle-down, yet is freighted with thought. Its philosophy is so sublimated and so natural and easy that we are likely to forget that it has any philosophy at all. The fifty or more stanzas of his "Gates of Silence" are probably far less well known. Let me quote a few of them:

"The races rise and fall,
The nations come and go,
Time tenderly doth cover all
With violets and snow.

"The mortal tide moves on
To some immortal shore,
Past purple peaks of dusk and dawn,
Into the evermore.

"All the tomes of all the tribes, All the songs of all the scribes, All that priest and prophet say, What is it? and what are they?

"Fancies futile, feeble, vain,
Idle dream-drift of the brain,
As of old the mystery
Doth encompass you and me.

"Old and yet young, the jocund Earth
Doth speed among the spheres,
Her children of imperial birth
Are all the golden years.

"The happy orb sweeps on, Led by some vague unrest, Some mystic hint of joys unborn Springing within her breast."

What takes one in "The Gates of Silence," which, of course, means the gates of death, are the large, sweeping views. The poet strides through time and space like a Colossus and

"flings
Out of his spendthrift hands
The whirling worlds like pebbles,
The meshèd stars like sands."

Loveman's stanzas have not the flexibility and freedom of those of Moody and McCarthy, but 205

they bring in full measure the largeness of thought which a true poem requires.

Some of Moody's poems rank with the best in the literature of his time. He was deeply moved by the part we played in the Spanish-American War. It was a war of shame and plunder from the point of view of many of the noblest and most patriotic men of the country. We freed Cuba from the Spanish yoke and left her free; but we seized the Philippines and subdued the native population by killing a vast number of them — more than half of them, some say. Commercial exploitation inspired our policy. How eloquently Senator Hoar of Massachusetts inveighed against our course! We promised the Filipinos their freedom — a promise we have not yet fulfilled.

Moody's most notable poems are "Gloucester Moors," "An Ode in Time of Hesitation" (inspired by the Shaw Monument in Boston, the work of Saint-Gaudens), "The Brute," "The Daguerreotype," and "On a Soldier Fallen in the Philippines." In this last poem throb and surge the mingled emotions of pride and shame which the best minds in the country felt at the time—shame at our mercenary course, and pride in the fine behavior of our soldiers. It is true we made some pretense of indemnifying Spain by paying her twenty million dollars, which was much like the course of a boy who throws another boy

down and forcibly takes his jack-knife from him, then gives him a few coppers to salve his wounds. I remember giving Moody's poem to Charles Eliot Norton (one of those who opposed the war), shortly after it appeared. He read it aloud with marked emotion. Let me quote two of its stanzas:

"Toll! Let the great bells toll
Till the clashing air is dim.
Did we wrong this parted soul?
We will make it up to him.
Toll! Let him never guess
What work we set him to.
Laurel, laurel, yes;
He did what we bade him do.

Project and power a whichered hint but

Praise, and never a whispered hint but the fight he fought was good;

Never a word that the blood on his sword was his country's own heart's-blood.

"A flag for the soldier's bier
Who dies that his land may live;
O, banners, banners here,
That he doubt not nor misgive!
That he heed not from the tomb
The evil days draw near
When the nation, robed in gloom,
With its faithless past shall strive.

Let him never dream that his bullet's scream went wide of its island mark,

Home to the heart of his darling land where she stumbled and sinned in the dark."

When I say that every true poet must have a philosophy, I do not mean that he must be what is commonly called a philosophical poet; from

such we steer clear. The philosophy in a poem must be like the iron in the blood. It is the iron that gives color and vigor to the blood. Reduce it and we become an anæmic and feeble race. Much of the popular poetry is anæmic in this respect. There is no virile thought in it. All of which amounts to saying that there is always a great nature back of a great poem.

The various forms of verse are skillfully used by an increasing number of educated persons, but the number of true poets is not increasing. Quite the contrary, I fear. The spirit of the times in which we live does not favor meditation and absorption in the basic things out of which great poetry arises. "The world is too much with us." Yet we need not be too much discouraged. England has produced Masefield, and we have produced John Russell McCarthy, who has written the best nature poetry since Emerson. The genius of a race does not repeat. We shall never again produce poets of the type of those that are gone, and we should not want to. All we may hope for is to produce poets as original and characteristic and genuine as those of the past — poets who as truly express the spirit of their time, as the greater poets did of theirs - not Emerson and Whitman over again, but a wide departure from their types.

Speaking of Whitman, may we not affirm that 208

it is his tremendous and impassioned philosophy suffusing his work, as the blood suffuses the body, that keeps "Leaves of Grass" forever fresh? We do not go to Whitman for pretty flowers of poesy, although they are there, but we go to him for his attitude toward life and the universe, we go to stimulate and fortify our souls — in short, for his cosmic philosophy incarnated in a man.

What largeness of thought Tennyson brings to all his themes! There is plenty of iron in his blood, though it be the blood of generations of culture. and of an overripe civilization. We cannot say as much of Swinburne's poetry or prose. I do not think either will live. Bigness of words, and fluency, and copiousness of verse cannot make up for the want of a sane and rational philosophy. Arnold's poems always have real and tangible subject matter. His "Dover Beach" is a great stroke of poetic genius. Let me return to Poe: what largeness of thought did he bring to his subjects? Emerson spoke of him as "the jingle man," and Poe, in turn, spoke of Emerson with undisguised contempt. Poe's picture indicates n neurotic person. There is power in his eyes, but the shape of his head is abnormal, and a profound melancholy seems to rest on his very soul. What a conjurer he was with words and meters and measures! No substance at all in his "Raven," only shadows - a wonderful dance of shadows, all

tricks of a verbal wizard. "The Bells," a really powerful poem, is his masterpiece, unique in English literature; but it has no intellectual content. Its appeal is to the eye and ear alone. It has a verbal splendor and a mastery over measure and rhythm far beyond anything in Shelley, or in any other poet of his time. It is art glorified; it is full of poetic energy. No wonder foreign critics see in Poe something far beyond that found in any other American, or in any British poet!

Poe set to work to write "The Raven" as deliberately as a mechanic goes to work to make a machine, or an architect to build a house. It was all a matter of calculation with him. He did not believe in long poems, hence decided at the outset that his poem should not be more than one hundred lines in length. Then he asked himself, What is the legitimate end and aim of a poem? and answered emphatically, Beauty. The next point to settle was. What impression must be made to produce that effect? He decided that "melancholy is the most legitimate of all poetic tones." Why joy or gladness, like that of the birds, is not equally legitimate, he does not explain. Then, to give artistic piquancy to the whole, he decided that there must be "some pivot upon which the whole structure might turn." He found that "no one had been so universally employed as the refrain." The burden of the poem should be given by the

refrain, and it should be a monotone, and should have brevity. Then his task was to select a single word that would be in keeping with the melancholy at which he was aiming, and this he found in the word nevermore. He next invented a pretext for the frequent but varying use of nevermore. This word could not be spoken in the right tone by a human being; it must come from an unreasoning creature, hence the introduction of the raven, an ill-omened bird, in harmony with the main tone of the poem. He then considered what was the most melancholy subject of mankind, and found it was death, and that that melancholy theme was most poetical when allied to beauty. Hence the death of a beautiful woman was unquestionably the most poetic topic in the world. It was equally beyond doubt that the lips best suited for such topic were those of a bereaved lover. Thus he worked himself up, or rather back, to the climax of the poem, for he wrote the last stanza, in which the climax occurs, first. His own analysis of the poem is like a chemist's analysis of some new compound he has produced; it is full of technical terms and subtle distinctions. Probably no other famous poem was turned out in just that studied and deliberate architectural way - no pretense of inspiration, or of "eyes in fine frenzy rolling": just skilled craftsmanship — only this and nothing more.

Arnold's dictum that poetry is a criticism of life is, in a large and flexible sense, true. The poet does not criticize life as the conscious critic does, but as we unconsciously do in our most exalted moments. Arnold, I believe, did not appreciate Whitman, but one function of the poet upon which Whitman lays emphasis, is criticism of his country and times.

"What is this you bring, my America? Is it uniform with my country?

Is it not something that has been better done or told before? Have you not imported this or the spirit of it in some ship? Is it not a mere tale? a rhyme? a pettiness? — is the good old cause in it?

Has it not dangled long at the heels of the poets, politicians, literates of enemies, lands?

Does it not assume that what is notoriously gone is still here?

Does it answer universal needs? will it improve manners?

Can your performance face the open fields and the seaside?

Will it absorb into me as I absorb food, air, to appear again in my strength, gait, face?

Have real employments contributed to it? Original makers, not mere amanuenses?"

Speaking of criticism, it occurs to me how important it is that a poet, or any other writer, should be a critic of himself. Wordsworth, who was a really great poet, was great only at rare intervals. His habitual mood was dull and prosy. His sin was that he kept on writing during those moods, grinding out sonnets by the hundred — one hundred and thirty-two ecclesiastical sonnets, and over half as many on liberty, all very dull and wooden. His mill kept on grinding whether it had

any grist of the gods to grind or not. He told Emerson he was never in haste to publish, but he seems to have been in haste to write, and wrote on all occasions, producing much dull and trivial work. We speak of a man's work as being heavy. Let us apply the test literally to Wordsworth and weigh his verse. The complete edition of his poems, edited by Henry Reed and published in Philadelphia in 1851, weighs fifty-five ounces: the selection which Matthew Arnold made from his complete works, and which is supposed to contain all that is worth preserving, weighs ten ounces. The difference represents the dead wood. That Wordsworth was a poor judge of his own work is seen in the remark he made to Emerson that he did not regard his "Tintern Abbey" as highly as some of the sonnets and parts of "The Excursion." I believe the Abbey poem is the one by which he will longest be remembered. "The Excursion" is a long, dull sermon. Its didacticism lies so heavily upon it that it has nearly crushed its poetry - like a stone on a flower.

All poetry is true, but all truth is not poetry. When Burns treats a natural-history theme, as in his verses on the mouse and the daisy, and even on the louse, how much more there is in them than mere natural history! With what a broad and tender philosophy he clothes them! how he identifies himself with the mouse and regards himself

as its fellow mortal! So have Emerson's "Tit-mouse" and "Humble-Bee" a better excuse for being than their natural history. So have Mc-Carthy's "For a Bunny" and "The Snake," and "To a Worm."

THE SNAKE

Poor unpardonable length, All belly to the mouth, Writhe then and wriggle, If there's joy in it!

My heel, at least, shall spare you.

A little sun on a stone, A mouse or two, And all that unreasonable belly Is happy.

No wonder God wasn't satisfied — And went on creating.

TO A WORM

Do you know you are green, little worm, Like the leaf you feed on? Perhaps it is on account of the birds, who would like to eat you. But is there any reason why they shouldn't eat you, little worm?

Do you know you are comical, little worm? How you double yourself up and wave your head, And then stretch out and double up again, All after a little food.

Do you know you have a long, strange name, little worm? I will not tell you what it is.
That is for men of learning.
You — and God — do not care about such things.

You would wave about and double up just as much, and be just as futile, with it as without it.

Why do you crawl about on the top of that post, little worm? It should have been a tree, ch? with green leaves for eating. But it isn't, and you have crawled about it all day, looking for a new brown branch, or a green leaf.

Do you know anything about tears, little worm?

Or take McCarthy's lines to the honey bee:

"Poor desolate betrayer of Pan's trust,
Who turned from mating and the sweets thereof,
To make of labor an eternal lust,
And with pale thrift destroy the red of love,
The curse of Pan has sworn your destiny.
Unloving, unbeloved, you go your way
Toiling forever, and unwittingly
You bear love's precious burden every day
From flower to flower (for your blasphemy),
Poor eunuch, making flower lovers gay."

Or this:

GODLINESS

I know a man who says
That he gets godliness out of a book.

He told me this as we sought arbutus
On the April hills —
Little color-poems of God
Lilted to us from the ground,
Lyric blues and whites and pinks.
We climbed great rocks,
Eternally chanting their gray elegies,
And all about, the cadenced hills
Were proud
With the stately green epic of the Almighty.

And then we walked home under the stars, While he kept telling me about his book And the godliness in it.

There are many great lyrics in our literature which have no palpable or deducible philosophy; but they are the utterance of deep, serious, imaginative natures, and they reach our minds and hearts. Wordsworth's "Daffodils," his "Cuckoo," his "Skylark," and scores of others, live because they have the freshness and spontaneity of birds and flowers themselves.

Such a poem as Gray's "Elegy" holds its own, and will continue to hold it, because it puts in pleasing verse form the universal human emotion which all persons feel more or less when gazing upon graves.

The intellectual content of Scott's poems is not great but the human and emotional content in them is great. A great minstrel of the border speaks in them. The best that Emerson could say of Scott was that "he is the delight of generous boys," but the spirit of romance offers as legitimate a field for the poet as does the spirit of transcendentalism, though yielding, of course, different human values.

Every poet of a high order has a deep moral nature, and yet the poet is far from being a mere moralist —

"A reasoning, self-sufficing thing, An intellectual all-in-all."

Every true poem is an offering upon the altar of art; it exists to no other end; it teaches as nature

teaches; it is good as nature is good; its art is the art of nature; it brings our spirits in closer and more loving contact with the universe; it is for the edification of the soul.

VI

SHORT STUDIES IN CONTRASTS

THE TRANSIENT AND THE PERMANENT

The clouds are transient, but the sky is permanent. The petals of a flowering plant are transient, the leaves and fruit are less so, and the roots the least transient of all. The dew on the grass is transient, as is the frost of an autumn morning. The snows and the rains abide longer. The splendors of summer and sunrise and sunset soon pass, but the glory of the day lasts. The rainbow vanishes in a few moments, but the prismatic effect of the drops of rain is a law of optics. Colors fade while texture is unimpaired.

Of course change marks everything, living or dead. Even the pole star in astronomic time will vanish. But consider things mundane only. How the rocks on the seacoast seem to defy and withstand the waves that beat against them! "Weak as is a breaking wave" is a line of Wordsworth's. Yet the waves remain after the rocks are gone. The sea knows no change as the land does. It and the sky are the two unchanging earth features.

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In our own lives how transient are our moments of inspiration, our morning joy, our ecstasies of the spirit! Upon how much in the world of art, literature, invention, modes, may be written the word "perishable"! "All flesh is grass," says the old Book. Individuals, species, races, pass. Life alone remains and is immortal.

POSITIVE AND NEGATIVE

Positive and negative go hand in hand through the world. Victory and defeat, hope and despair, pleasure and pain. Man is positive, woman is negative in comparison. The day is positive, the night is negative. But it is a pleasure to remember that it is always day in the universe.

The shadow of the earth does not extend very far, nor the shadow of any other planet. Day is the great cosmic fact. The masses of men are negative to the few master and compelling minds. Cold is negative, heat is positive, though the difference is only one of degree. The negative side of life, the side of meditation, reflection, and reverie, is no less important than the side of action and performance. Youth is positive, age is negative. Age says No where it used to say Yes. It takes in sail. Life's hurry and heat are over, the judgment is calm, the passions subdued, the stress of effort relaxed. Our temper is less aggressive, events seem less imminent.

The morning is positive; in the evening we muse and dream and take our ease, we see our friends, we unstring the bow, we indulge our social instincts.

Optimism is positive, pessimism is negative. Fear, suspicion, distrust — are all negative.

On the seashore where I write ¹ I see the ebbing tide, the exposed sand and rocks, the receding waves; and I know the sea is showing us its negative side; there is a lull in the battle. But wait a little and the mad assault of the waves upon the land will be renewed.

PALM AND FIST

THE palm is for friendship, hospitality, and good will; the fist is to smite the enemies of truth and justice.

How many men are like the clenched fist — pugnacious, disputatious, quarrelsome, always spoiling for a fight; a verbal fisticuff, if not a physical one, is their delight. Others are more conciliatory and peace-loving, not forgetting that a soft answer turneth away wrath. Roosevelt was the man of the clenched fist; not one to stir up strife, but a merciless hitter in what he believed a just cause. He always had the fighting edge, yet could be as tender and sympathetic as any one. This latter side of him is clearly shown in his recently published "Letters to His Children." Lincoln

¹ La Jolla, California.

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was, in contrast, the man with the open palm, tempering justice with kindness, and punishment with leniency. His War Secretary, Stanton, wielded the hard fist.

PRAISE AND FLATTERY

"More men know how to flatter," said Wendell Phillips, "than how to praise." To flatter is easy, to condemn is easy, but to praise judiciously and discriminatingly is not easy. Extravagant praise defeats itself, as does extravagant blame. A man is rarely overpraised during his own time by his own people. If he is an original, forceful character, he is much more likely to be overblamed than overpraised. He disturbs old ways and institutions. We require an exalted point of view to take in a great character, as we do to take in a great mountain.

We are likely to overpraise and overblame our presidents. Lincoln was greatly overblamed in his day, but we have made it up to his memory. President Wilson won the applause of both political parties during his first term, but how overwhelmingly did the tide turn against him before the end of his second term! All his high and heroic service (almost his martyrdom) in the cause of peace, and for the league to prevent war, were forgotten in a mad rush of the populace to the other extreme. But Wilson will assuredly come

to his own in time, and take his place among the great presidents.

A little of the Scottish moderation is not so bad; it is always safe. A wise man will always prefer unjust blame to fulsome praise. Extremes in the estimation of a sound character are bound sooner or later to correct themselves. Wendell Phillips himself got more than his share of blame during the antislavery days, but the praise came in due time.

GENIUS AND TALENT

The difference between the two is seen in nothing more clearly than in the fact that so many educated persons can and do write fairly good verse, in fact, write most of the popular newspaper and magazine poetry, while only those who have a genius for poetry write real poems. Could mere talent have written Bryant's lines "To a Waterfowl"? or his "Thanatopsis"? or "June"? Or the small volume of selections of great poetry which Arnold made from the massive works of Wordsworth?

Talent could have produced a vast deal of Wordsworth's work — all the "Ecclesiastical Sonnets" and much of "The Excursion." Could talent have written Walt Whitman's "Leaves of Grass"? It could have produced all that Whitman wrote before that time — all his stories and poems. Give talent inspiration and it becomes

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genius. The grub is metamorphosed into the butterfly.

"To do what is impossible to Talent is the mark of Genius," says Amiel.

Talent may judge, Genius creates. Talent keeps the rules, Genius knows when to break them.

"You may know Genius," says the ironical Swift, "by this sign: All the dunces are against him."

There is fine talent in Everett's oration at Gettysburg, but what a different quality spoke in Lincoln's brief but immortal utterance on the same occasion! Is anything more than bright, alert talent shown in the mass of Lowell's work, save perhaps in his "Biglow Papers"? If he had a genius for poetry, though he wrote much, I cannot see it. His tone, as Emerson said, is always that of prose. The "Cathedral" is a tour de force. The line of his so often quoted — "What is so rare as a day in June?" — is a line of prose.

The lines "To a Honey Bee" by John Russell Mc-Carthy are the true gold of poetry. "To make of labor an eternal lust" could never have been struck off by mere talent.

INVENTION AND DISCOVERY

Columbus discovered America; Edison invented the phonograph, the incandescent light, and many other things. If Columbus had not discovered

America, some other voyager would have. If Harvey had not discovered the circulation of the blood, some one else would have. The wonder is that it was not discovered ages before. So far as I know. no one has yet discovered the function of the spleen, but doubtless in time some one will. It is only comparatively recently that the functions of other ductless glands have been discovered. What did we know about the thyroid gland a half-century ago? All the new discoveries in the heavens waited upon the new astronomic methods, and the end is not yet. Many things in nature are still like an unexplored land. New remedies for the ills of the human body doubtless remain to be found. In the mechanical world probably no new principle remains to be discovered. "Keely" frauds have had their day. In the chemical world, the list of primary elements will probably not be added to, though new combinations of these elements may be almost endless. In the biological world, new species of insects, birds, and mammals doubtless remain to be discovered. Our knowledge of the natural history of the globe is far from being complete.

But in regard to inventions the case is different. I find myself speculating on such a question as this: If Edison had never been born, should we ever have had the phonograph, or the incandescent light? If Graham Bell had died in infancy,

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should we ever have had the telephone? Or without Marconi should we have had the wireless, or without Morse, the telegraph? Or, to go back still farther, without Franklin should we ever have known the identity of lightning and electricity? Who taught us how to control electricity and make it do our work? One of the questions of Job was, "Canst thou send lightnings, that they may go, and say unto thee, Here we are?" Yes, we can. "We are ready to do your bidding," they seem to say, "to run your errands, to carry your burdens, to grind your grist, to light your houses, to destroy your enemies."

The new inventions that the future holds for us wait upon the new man. The discovery of radium — what a secret that was! But in all probability had not Curie and his wife discovered it, some other investigator would.

Shall we ever learn how to use the atomic energy that is locked up in matter? Or how to use the uniform temperature of the globe? Or the secret of the glow-worm and firefly — light without heat?

The laws of the conservation of energy and of the correlation of forces were discoveries. The art of aviation was both an invention and a discovery. The soaring hawks and eagles we have always been familiar with; the Wright brothers invented the machine that could do the trick.

"Necessity is the mother of invention." As our wants increase, new devices to meet them appear. How the diving-bell answered a real need! The motor-car also, and the flying-machine. The sewing-machine is a great time-saver; the little hooks in our shoes in place of eyelets are great time-savers; pins, and friction matches, and rubber overshoes, and scores on scores of other inventions answer to real needs. Necessity did not call the phonograph into being, nor the incandescent light, but the high explosives, dynamite and T. N. T. (trinitrotoluol) met real wants.

The Great War with its submarines stimulated inventors to devise weapons to cope with them. Always as man's hand and eyes and ears have needed reënforcing or extending, his wit has come to his rescue. In fact, his progress has been contingent upon this very fact. His necessities and his power of invention react upon one another; the more he invents, the more he wants, and the more he wants, the more he invents.

TOWN AND COUNTRY

I was saying to myself, Why do not all literary men go to the country to do their work, where they can have health, peace, and solitude? Then it occurred to me that there are many men of many minds, and that many need to be in the thick of life; they get more stimulus out of people than out

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of nature. The novelist especially needs to be in touch with multitudes of men and women. But the poet and the philosopher will usually prosper better in the country. A man like myself, who is an observer and of a meditative cast, does better in the country. Emerson, though city born and bred, finally settled in the country. Whitman, on the other hand, loved "populous pavements." But he was at home anywhere under the stars. He had no study, no library, no club, other than the street, the beach, the hilltop, and the marts of men. Mr. Howells was country-born, but came to the city for employment and remained there. Does not one wish that he had gone back to his Ohio boyhood home? It was easy for me to go back because I came of generations of farmer folk. The love of the red soil was in my blood. My native hills looked like the faces of my father and mother. I could never permanently separate myself from them. I have always had a kind of chronic homesickness. Two or three times a year I must revisit the old scenes. I have had a landsurveyor make a map of the home farm, and I have sketched in and colored all the different fields as I knew them in my youth. I keep the map hung up in my room here in California, and when I want to go home, I look at this map. I do not see the paper. I see fields and woods and stone walls and paths and roads and grazing cattle. In this field

I used to help make hay; in this one I wore my fingers sore picking up stones for these stone walls; in this I planted corn and potatoes with my brothers. In these maple woods I helped make sugar in the spring; in these I killed my first ruffed grouse. In this field I did my first ploughing, with thoughts of an academy in a neighboring town at the end of every furrow. In this one I burned the dry and decayed stumps in the April days, with my younger brother, and a spark set his cap on fire. In this orchard I helped gather the apples in October. In this barn we husked the corn in the November nights. In this one Father sheared the sheep, and Mother picked the geese. My paternal grandfather cleared these fields and planted this orchard. I recall the hired man who worked for us during my time, and every dog my father had, and my adventures with them, hunting woodchucks and coons. All these things and memories have been valuable assets in my life. But it is well that not all men have my strong local attachments. The new countries would never get settled. My forefathers would never have left Connecticut for the wilderness of the Catskills.

As a rule, however, we are a drifting, cosmopolitan people. We are easily transplanted; we do not strike our roots down into the geology of long-gone time.

I often wonder how so many people of the Old 228

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World can pull themselves up and migrate to America and never return. The Scots, certainly a home-loving race, do it, and do not seem to suffer from homesickness.

VII

DAY BY DAY

WE often hear it said of a man that he was born too early, or too late, but is it ever true? If he is behind his times, would he not have been behind at whatever period he had been born? If he is ahead of his times, is not the same thing true? In the vegetable world the early flowers and fruit blossoms are often cut off by the frost, but not so in the world of man. Babies are in order at any time. Is a poet, or a philosopher, ever born too late? or too early? If Emerson had been born a century earlier, his heterodoxy would have stood in his way: but in that case he would not have been a heretic. Whitman would have had to wait for a hearing at whatever period he was born. He said he was willing to wait for the growth of the taste for himself, and it finally came. Emerson's first thin volume called "Nature" did not sell the first edition of five hundred copies in ten years. but would it have been different at any other time? A piece of true literature is not superseded. The fame of man may rise and fall, but it lasts. Was Watt too early with his steam-engine, or Morse

too early with his telegraph? Or Bell too early with his telephone? Or Edison with his phonograph or his incandescent light? Or the Wright brothers with their flying-machine? Or Henry Ford with his motor-car? Before gasolene was discovered they would have been too early, but then their inventions would not have materialized.

The world moves, and great men are the springs of progress. But no man is born too soon or too late.

A fadeless flower is no flower at all. How Nature ever came to produce one is a wonder. Would not paper flowers do as well?

The most memorable days in our lives are the days when we meet a great man.

How stealthy and silent a thing is that terrible power which we have under control in our homes, yet which shakes the heavens in thunder! It comes and goes as silently as a spirit. In fact, it is nearer a spirit than anything else known to us. We touch a button and here it is, like an errandboy who appears with his cap in his hand and meekly asks, "What will you have?"

A few days ago I was writing of meteoric men. But are we not all like meteors that cut across the

sky and are quickly swallowed up by the darkness—some of us leaving a trail that lasts a little longer than others, but all gone in a breath?

Our great pulpit orator Beecher, how little he left that cold print does not kill! As a young man I used nearly to run my legs off to get to Plymouth Church before the doors were closed. Under his trumpet-like voice I was like a reed bent by the wind, but now when in a book made up of quotations I see passages from his sermons, they seem thin and flimsy. Beecher's oratory was all for the ear and not for the eye and mind. In truth, is the world indebted to the pulpit for much good literature? Robertson's sermons can be read in the library, and there are others of the great English divines. But oratory is action and passion. "Great volumes of animal heat," Emerson names as one of the qualities of the orator.

The speeches of Wendell Phillips will bear print because his oratory was of the quiet, conversational kind. Webster's, of course, stand the test of print, but do Clay's or Calhoun's? In our time oratory, as such, has about gone out. Rarely now do we hear the eagle scream in Congress or on the platform. Men aim to speak earnestly and convincingly, but not oratorically. President Wilson is a very convincing speaker, but he indulges in no oratory. The one who makes a great effort to be eloquent always fails. Noise and fury and over-

emphasis are not eloquent. "True eloquence," says Pascal, "scorns eloquence."

There is no moral law in nature, but there is that out of which the moral law arose. There is no answer to prayer in the heavens above, or in the earth beneath, except in so far as the attitude of sincere prayer is a prophecy of the good it pleads for. Prayer for peace of mind, for charity, for gratitude, for light, for courage, is answered in the sincere asking. Prayer for material good is often prayer against wind and tide, but wind and tide obey those who can rule them.

Our ethical standards injected into world-history lead to confusion and contradiction. Introduced into the jungle, they would put an end to life there; introduced into the sea, they would put an end to life there; the rule that it is more blessed to give than to receive would put an end to all competitive business. Our ethical standards are narrow, artificial, and apply only to civilized communities. Nations have rarely observed them till the present day.

If the world is any better for my having lived in it, it is because I have pointed the way to a sane and happy life on terms within reach of all, in my love and joyous acceptance of the works of Nature about me. I have not tried, as the phrase is, to lead my readers from Nature up to Nature's God,

because I cannot separate the one from the other. If your heart warms toward the visible creation, and toward your fellow men, you have the root of the matter in you. The power we call God does not sustain a mechanical or secondary relation to the universe, but is vital in it, or one with it. To give this power human lineaments and attributes, as our fathers did, only limits and belittles it. And to talk of leading from Nature up to Nature's God is to miss the God that throbs in every spear of grass and vibrates in the wing of every insect that hums. The Infinite is immanent in this universe.

..

"The faith that truth exists" is the way that William James begins one of his sentences. Of course truth exists where the mind of man exists. A new man and there is new truth. Truth, in this sense, is a way of looking at things that is agreeable, or that gives satisfaction to the human mind. Truth is not a definite fixed quantity, like the gold or silver of a country. It is no more a fixed quantity than is beauty. It is an experience of the human mind. Beauty and truth are what we make them. We say the world is full of beauty. What we mean is that the world is full of things that give us the pleasure, or awaken in us the sentiment which we call by that name.

The broadest truths are born of the broadest

minds. Narrow minds are so named from their narrow views of things.

Pilate's question, "What is Truth?" sets the whole world by the ears. The question of right and wrong is another thing. Such questions refer to action and the conduct of our lives. In religion, in politics, in economics, in sociology, what is truth to one man may be error to another. We may adopt a course of action because it seems the more expedient. Debatable questions have two sides to them. In the moral realm that is true which is agreeable to the largest number of competent judges. A mind that could see further and deeper might reverse all our verdicts. To be right on any question in the moral realm is to be in accord with that which makes for the greatest good to the greatest number. In our Civil War the South believed itself right in seceding from the Union; the North, in fighting to preserve the Union. Both sections now see that the North had the larger right. The South was sectional. the North national. Each of the great political parties thinks it has a monopoly of the truth, but the truth usually lies midway between them. Questions of right and wrong do not necessarily mean questions of true and false. "There is nothing either good or bad," says Hamlet, "but thinking makes it so." This may be good Christian Science doctrine, but it is doubtful philosophy.

...

Yesterday, as I stood on the hill above Slabsides and looked over the landscape dotted with farms just greening in the April sun, the thought struck me afresh that all this soil, all the fertile fields, all these leagues on leagues of sloping valleys and rolling hills came from the decay of the rocks, and that the chief agent in bringing about this decay and degradation was the gentle rain from heaven—that without the rain through the past geologic ages, the scene I looked upon would have been only one wild welter of broken or crumpled rocky strata, not a green thing, not a living thing, should I have seen.

In the Hawaiian Islands one may have proof of this before his eyes. On one end of the island of Maui, the rainfall is very great, and its deep valleys and high sharp ridges are clothed with tropical verdure, while on the other end, barely ten miles away, rain never falls, and the barren, rocky desolation which the scene presents I can never forget. No rain, no soil; no soil, no life.

We are, therefore, children of the rocks; the rocks are our mother, and the rains our father.

...

When the stream of life, through some favoring condition, breaks through its natural checks and bounds, and inundates and destroys whole provinces of other forms, as when the locusts, the

forest-worms, the boll-weevil, the currant-worm, the potato beetle, unduly multiply and devastate fields and forests and the farmer's crops, what do we witness but Nature's sheer excess and intemperance? Life as we usually see it is the result of a complex system of checks and counter-checks. The carnivorous animals are a check on the herbivorous; the hawks and owls are a check on the birds and fowls; the cats and weasels are a check on the small rodents, which are very prolific. The different species of plants and trees are a check upon one another.

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I think the main reason of the abundance of wealth in the country is that every man, equipped as he is with so many modern scientific appliances and tools, is multiplied four or five times. He is equal to that number of men in his capacity to do things as compared with the men of fifty or seventy years ago. The farmer, with his mowing-machine, his horse-rake, his automobile, his tractor engine and gang ploughs or his sulky ploughs, his hay-loader, his corn-planter, and so on, does the work of many men. Machinery takes the place of men. Gasolene and kerosene oil give man a great advantage. Dynamite, too, — what a giant that is in his service! The higher cost of living does not offset this advantage.

The condition in Europe at this time is quite

different: there the energies of men have been directed not to the accumulation of wealth, but to the destruction of wealth. Hence, while the war has enriched us, it has impoverished Europe.

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Why are women given so much more to ornaments and superfluities in dress and finery than men? In the animal kingdom below man, save in a few instances, it is the male that wears the showy decorations. The male birds have the bright plumes; the male sheep have the big horns; the stag has the antlers; the male lion has the heavy mane; the male firefly has wings and carries the lamp. With the barnyard fowl the male has the long spurs and the showy comb and wattles. In the crow tribe, the male cannot be distinguished from the female, nor among the flycatchers, nor among the snipes and plovers. But when we come to the human species, and especially among the white races, the female fairly runs riot in ornamentation. If it is not to attract the male, what is it for? It has been pretty clearly shown that what Darwin calls "sexual selection" plays no part. Woman wishes to excite the passion of love. She has an instinct for motherhood; the perpetuity of the species is at the bottom of it all. Woman knows how to make her dress alluring, how to make it provocative, how much to reveal, how much to conceal. A certain voluptuousness is the ambition

of all women; anything but to be skinny and raw-boned. She does not want to be muscular and flat-chested, nor, on the other hand, to be overstout, but she prays for the flowing lines and the plumpness that belong to youth. A lean man does not repel her, nor a rugged, bony frame. Woman's garments are of a different texture and on a different scale than those of man, and much more hampering. Her ruffles and ribbons and laces all play their part. Her stockings even are a vital problem, more important than her religion. We do not care where she worships if her dress is attractive. Emerson reports that a lady said to him that a sense of being well-dressed at church gave a satisfaction which religion could not give.

With man the male defends and safeguards the female. True that among savage tribes he makes a slave of her, but in the white races he will defend her with his life. She does not take up arms, she does not go to sea. She does not work in mines, or as a rule engage in the rough work of the world. In Europe she works in the field, and we have had farmerettes in this country, but I know of no feminine engineers or carpenters or stone masons. There have been a few women explorers and Alpine climbers, and investigators in science, but only a few. The discovery of radium is chiefly accredited to a woman, and women have a few valuable inventions to their credit. I

saw a valuable and ingenious machine, in a great automobile factory, that was invented by a woman. Now that woman has won the franchise in this country, we are waiting to see if politics will be purified.

The "weaker sex," surely. How much easier do women cry than men! how much more easily are they scared! And yet, how much more pain they can endure! And how much more devoted are they to their children!

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Why does any extended view from a mountaintop over a broad landscape, no matter what the features of that landscape, awaken in us the emotion of the beautiful? Is it because the eye loves a long range, a broad sweep? Or do we have a sense of victory? The book of the landscape is now open before us, and we can read it page after page. All these weary miles where we tramped, and where the distance, as it were, was in ambush, we now command at a glance. Big views expand the mind as deep inhalations of air expand the lungs.

Yesterday I stood on the top of Grossmont, probably a thousand feet above the landscape, and looked out over a wide expanse of what seemed to be parched, barren country; a few artificial lakes or ponds of impounded rains, but not a green

¹ In San Diego County, California.

thing in sight, and yet I was filled with pleasurable emotion. I lingered and lingered and gazed and gazed. The eye is freed at such times, like a caged bird, and darts far and near without hindrance.

"The wings of time are black and white, Pied with morning and with night."

Thus do we objectify that which has no objective existence, but is purely a subjective experience. Do we objectify light and sound in the same way? No. One can conceive of the vibrations in the ether that give us the sensation of light, and in the air that give us sound. These vibrations do not depend upon our organs. Time and tide, we say, wait for no man. Certainly the tide does not, as it has a real objective existence. But time does not wait or hurry. It neither lags nor hastens. Yesterday does not exist, nor to-morrow, nor the Now, for that matter. Before we can say the moment has come, it is gone. The only change there is is in our states of consciousness. How the hours lag when we are waiting for a train, and how they hurry when we are happily employed! Can we draw a line between the past and the present? Can you find a point in the current of the stream that is stationary? We speak of being lavish of time and of husbanding time, of improving time, and so on. We divide it into

seconds and minutes, hours and days, weeks, and months, and years. Civilized man is compelled to do this; he lives and works by schedule, but it is his states of consciousness that he divides and measures. "Time is but a stream I go fishing in," says Thoreau. The stream goes by, but the fish stay. The river of Time, the tooth of Time—happy comparisons.

"I wasted time and now time wastes me," says Shakespeare. "I have no time." "You have all there is," replied the old Indian.

If time, like money, could be hoarded up, we could get all our work done. Is there any time outside of man? The animals take no note of time.

That is a good saying of Juvenal's, "He who owns the soil, owns up to the sky." So is this of Virgil's, "Command large fields, but cultivate small ones."

Can there be any theory or doctrine not connected with our practical lives so absurd that it will not be accepted as true by many people? How firmly was a belief in witchcraft held by whole populations for a generation! My grandfather believed in it, and in spooks and hobgoblins.

The belief in alchemy still prevails — that the baser metals, by the aid of the philosopher's stone, can be transmuted into gold and silver. Quite

recently there was a school in a large town in California for teaching alchemy. As it was a failure, its professor was involved in litigation with his pupils. I believe the pupils were chiefly women.

There is a sect in Florida that believe that we live on the inside of a hollow sphere, instead of on the outside of a revolving globe. I visited the community with Edison, near Fort Myers, several years ago. Some of the women were fine-looking. One old lady looked like Martha Washington, but the men all looked "as if they had a screw loose somewhere." They believe that the sun and moon and all the starry hosts of heaven revolve on the inside of this hollow sphere. All our astronomy goes by the board. They look upon it as puerile and contemptible. The founder of the sect had said he would rise from the dead to confirm its truth. His disciples kept his body till the Board of Health obliged them to bury it.

If any one were seriously to urge that we really walk on our heads instead of our heels, and cite our baldness as proof, there are persons who would believe him. It has been urged that flight to the moon in an aëroplane is possible — the want of air is no hindrance! The belief in perpetual motion is not yet dead. Many believe that snakes charm birds. But it has been found that a stuffed snake-skin will "charm" birds also — the bird is hypnotized by its own fear.

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What has become of the hermits? - men and women who preferred to live alone, holding little or no intercourse with their fellows? In my youth I knew of several such. There was old Ike Keator, who lived in a little unpainted house beside the road near the top of the mountain where we passed over into Batavia Kill. He lived there many years. He had a rich brother, a farmer in the valley below. Then there was Eri Gray, who lived to be over one hundred years. He occupied a little house on the side of a mountain, and lived. it was said, like the pigs in the pen. Then there was Aunt Deborah Bouton, who lived in a little house by a lonely road and took care of her little farm and her four or five cows, winter and summer. Since I have lived here on the Hudson there was a man who lived alone in an old stone house amid great filth on the top of the hill above Esopus village.

In my own line of descent there was a Kelley who lived alone in a hut in the woods, not far from Albany. I myself must have a certain amount of solitude, but I love to hear the hum of life all about me. I like to be secluded in a building warmed by the presence of other persons.

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When I was a boy on the old farm, the bright, warm, midsummer days were canopied with the mellow hum of insects. You did not see them or

distinguish any one species, but the whole upper air resounded like a great harp. It was a very marked feature of midday. But not for fifty years have I heard that sound. I have pressed younger and sharper ears into my service, but to no purpose: there are certainly fewer bumblebees than of old, but not fewer flies or wasps or hornets or honey bees. What has wrought the change I do not know.

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If the movements going on around us in inert matter could be magnified so as to come within range of our unaided vision, how agitated the world would seem! The so-called motionless bodies are all vibrating and shifting their places day and night at all seasons. The rocks are sliding down the hills or creeping out of their beds, the stone walls are reeling and toppling, the houses are settling or leaning. All inert material raised by the hand of man above the earth's surface is slowly being pulled down to a uniform level. The crust of the earth is rising or subsiding. The very stars in the constellations are shifting their places.

If we could see the molecular and chemical changes and transformations that are going or around us, another world of instability would be revealed to us. Here we should see real miracles. We should see the odorless gases unite to form water. We should see the building of

crystals, catalysis, and the movements of unstable compounds.

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Think of what Nature does with varying degrees of temperature — solids, fluids, gases. From the bottom to the top of the universe means simply more or less heat. It seems like a misuse of words to say that iron freezes at a high temperature, that a bar of red-hot or white-hot iron is frozen. Water freezes at a high temperature, the air freezes at a vastly lower. Carbon dioxide becomes a solid at a very low temperature. Hydrogen becomes a liquid at 252° below zero centigrade, and a solid at 264°. The gas fluorine becomes a liquid at 210° below zero centigrade.

In a world of absolute zero everything would be as solid as the rocks, all life, all chemical reactions would cease. All forms of water are the result of more or less heat. The circuit of the waters from the earth to the clouds and back again, which keeps all the machinery of life a-going, is the work of varying degrees of temperature. The Gulf Stream, which plays such a part in the climate of Europe, is the result of the heat in the Gulf of Mexico. The glacial periods which have so modified the surface of the earth in the past were the result of temperature changes.

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How habitually we speak of beauty as a positive 246

thing, just as we do of truth! whereas what we call beauty is only an emotional experience of our own minds, just as light and heat are sensations of our bodies. There is no light where there is no eye, and no sound where there is no ear. One is a vibration in the ether, and the other a vibration in the air. The vibrations are positive. We do not all see beauty in the same things. One man is unmoved where another is thrilled. We say the world is full of beauty, when we mean that it is full of objects that excite this emotion in our minds.

We speak of truth as if it, too, were a positive thing, and as if there were a fixed quantity of it in the world, as there is of gold or silver, or diamonds. Truth, again, is an intellectual emotion of the human mind. One man's truth is another man's falsehood — moral and æsthetic truth, I mean. Objective truth (mathematics and science) must be the same to all men.

A certain mode of motion in the molecules of matter gives us the sensation of heat, but heat is not a thing, an entity in itself, any more than cold is. Yet to our senses one seems just as positive as the other.

New truth means a new man. There are as many kinds of truth as there are human experiences and temperaments.

How adaptive is animal life! It adds a new 247

touch of interest to the forbidding cactus to know that the cactus wren builds her nest between its leaves. The spines probably serve to protect the bird from her enemies. But are they not also a menace to her and to her young? But this "procreant cradle" of a bird in the arms of the fanged desert growth softens its aspect a little.

The tree of forbidden fruit — the Tree of Knowledge - how copiously has mankind eaten of it during these latter generations! - and the chaotic state of the world to-day is the result. We have been forcing Nature's hand on a tremendous scale. We have gained more knowledge and power than we can legitimately use. We are drunk with the sense of power. We challenge the very gods. The rapid increase of inventions and the harnessing of the powers of Nature have set all nations to manufacturing vastly more goods than they can use and they all become competitors for world markets, and rivalries and jealousies spring up. and the seeds of war are planted. The rapid growth of towns and cities is one of the results. The sobering and humanizing influence of the country and the farm are less and less in evidence; the excitement, the excesses, the intoxication of the cities are more and more. The follies and extravagances of wealth lead to the insolence and rebellion of the poor. Material power! Drunk with

this power, the world is running amuck to-day. We have got rid of kings and despots and autocratic governments; now if we could only keep sober and make democracy safe and enjoyable! Too much science has brought us to grief. Behold what Chemistry has done to put imperial power in our hands during the last decade!

The grand movements of history and of mankind are like the movements of nature, under the same law, elemental, regardless of waste and ruin and delays — not the result of human will or design, but of forces we wot not of. They are of the same order as floods, tornadoes, earthquakes, a release of human forces that have slumbered. The chaos of Europe to-day shows the play of such elemental forces, unorganized, at cross-purposes, antagonistic, fighting it out in the attempt to find an equilibrium. The pain, the suffering, the waste, the delays, do not trouble the gods at all. Since man is a part of nature, why should not masses of men be ruled by natural law? The human will reaches but a little way.

VIII

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I po not believe that one poet can or does efface another, as Arnold suggests. As every gas is a vacuum to every other gas, so every new poet is a vacuum to every other poet. Wordsworth told Arnold that for many years his poems did not bring him enough to buy his shoestrings. reading public had to acquire a taste for him. Whitman said, "I am willing to wait for the growth of the taste of myself." A man who likes a poet of real worth is going to continue to like him, no matter what new man appears. He may not read him over and over, but he goes back to him when the mood is upon him. We listen to the same music over and over. We take the same walk over and over. We read Shakespeare over and over, and we go back to the best in Words worth over and over. We get in Tennyson wha we do not get in Wordsworth, and we as truly get in Wordsworth what we do not get in Tennyson. Tennyson was sumptuous and aristocratic. Byron found his audience, but he did not rob Wordsworth.

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It seems to me that the preëminence of Wordsworth lies in the fact that he deals so entirely with concrete things — men and objects in nature — and floods or saturates them with moral meanings. There is no straining, no hair-splitting, no contortions of the oracle, but it all comes as naturally as the sunrise or the sunset.

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Things not beautiful in themselves, or when seen near at hand, may and do give us the sense of beauty when seen at a distance, or in mass. Who has not stood on a mountain-top, and seen before him a wild, disorderly landscape that has nevertheless awakened in him the emotion of the beautiful? or that has given him the emotion of the sublime? Wordsworth's "Daffodils," "Three Years She Grew," "The Solitary Reaper," "The Rainbow," "The Butterfly," and many others are merely beautiful. These lines from Whitman give one the emotion of the sublime:

[&]quot;I open my scuttle at night and see the far-sprinkled systems, And all I see multiplied as high as I can cipher edge but the rim of the farther systems.

[&]quot;Wider and wider they spread, expanding, always expanding, Outward and outward and forever outward.

[&]quot;My sun has his sun and round him obediently wheels,
He joins with his partners a group of superior circuit,
And greater sets follow, making specks of the greatest inside
them."

All men may slake their thirst at the same spring of water, but all men cannot be thrilled or soothed by beholding the same objects of nature. A beautiful child captivates every one, a beautiful woman ravishes all eyes. On my way to the Imperial Valley, I recently drove across a range of California mountains that had many striking features. A lady asked me if I did not think them beautiful. I said, "No, they are hideous, but the hideous may be interesting."

The snow is beautiful to many persons, but it is not so to me. It is the color of death. I could stand our northern winters very well if I could always see the face of the brown or ruddy earth. The snow, I know, blankets the fields; and Emerson's poem on the snowstorm is fine; at the same time, I would rather not be obliged to look at the white fields.

We are the first great people without a past in the European sense. We are of yesterday. We do not strike our roots down deep into the geology of long-gone ages. We are easily transplanted. We are a mixture of all peoples as the other nations of the world are not. Only yesterday we were foreigners ourselves. Then we made the first experiment on a large scale of a democratic or selfgoverning people. The masses, and not a privileged few, give the tone and complexion to things

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in this country. We have not yet had time to develop a truly national literature or art. We have produced but one poet of the highest order. Whitman is autochthonous. He had no precursor. He is a new type of man appearing in this field.

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"What think ye of Whitman?" This is the question I feel like putting, and sometimes do put, to each young poet I meet. If he thinks poorly of Whitman, I think poorly of him. I do not expect great things of him, and so far my test holds good. William Winter thought poorly of Whitman, Aldrich thought poorly of him, and what lasting thing has either of them done in poetry? The memorable things of Aldrich are in prose. Stedman showed more appreciation of him, and Stedman wrote two or three things that will keep. His "Osawatomie Brown . . . he shoved his ramrod down" is sure of immortality. Higginson could not stand Whitman, and had his little fling at him whenever he got the chance. Who reads Higginson now? Emerson, who far outranks any other New England poet, was fairly swept off his feet by the first appearance of "Leaves of Grass." tier, I am told, threw the book in the fire. tier's fame has not gone far beyond New England. The scholarly and academic Lowell could not tolerate Whitman, and if Lowell has ever written

any true poetry, I have not seen it. What Long-fellow thought of him, I do not know. Thoreau saw his greatness at a glance and went to see him. In England, I am told, Tennyson used to read him aloud in select company. I know that the two poets corresponded. We catch a glimpse of Swinburne's spasmodic insight in his first burst of enthusiasm over him, and then of his weakness in recanting. Swinburne's friend and house-mate, Watts Dunton, never could endure him, but what has he done? So it has gone and still is going, though now the acceptance of Whitman has become the fashion.

I have always patted myself on the back for seeing the greatness of Whitman from the first day that I read a line of his. I was bewildered and disturbed by some things, but I saw enough to satisfy me of his greatness.

Whitman had the same faith in himself that Kepler had in his work. Whitman said:

"Whether I come to my own to-day, or in ten thousand, or ten million years,

I can cheerfully take it now, or with equal cheerfulness I can wait."

Kepler said: "The die is cast; the book is written, to be read either now or by posterity. I care not which. It may well wait a century for a reader, since God has waited six thousand years for an observer like myself."

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Judging from fragments of his letters that I have seen. Henry James was unquestionably hypersensitive. In his dislike of publicity he was extreme to the point of abnormality; it made him ill to see his name in print, except under just the right conditions. He wanted all things veiled and softened. He fled his country, abjured it completely. The publicity of it, of everything in America—its climate, its day, its night, the garish sun, its fierce, blazing light, the manner of its people, its politics, its customs - fairly made him cringe. During his last visit here he tried lecturing, but soon gave it up. He fled to veiled and ripened and cushioned England - not to the country, but to smoky London; and there his hypersensitive soul found peace and ease. He became a British subject, washed himself completely of every vestige of Americanism. This predilection of his probably accounts for the obscurity or tantalizing indirectness of his writings. The last story I read of his was called "One More Turn of the Screw," but what the screw was, or what the turn was, or whether anybody got pinched or squeezed, or what it was all about, I have not the slightest idea. He wrote about his visit here, his trip to Boston, to Albany, to New York, but which town he was writing about you could not infer from the context. He had the gift of a rich,

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choice vocabulary, but he wove it into impenetrable, though silken, veils that concealed more than they revealed. When replying to his correspondents on the typewriter, he would even apologize for "the fierce legibility of the type."

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The contrast between the "singing-robes and the overalls of Journalism" is true and striking. Good and true writing no magazine or newspaper editor will blue-pencil. But "fine" writing is a different thing — a style that is conscious of itself, a style in which the thought is commonplace and the language studied and ornate, every judicious editor will blue-pencil. Downrightness and sententiousness are prime qualities; brevity, concreteness, spontaneity - in fact, all forms of genuine expression - help make literature. You know the genuine from the spurious, gold from pinchbeck, that's the rub. The secret of sound writing is not in the language, but in the mind or personality behind the language. The dull writer and the inspired writer use, or may use, the same words, and the product will be gold in the one and lead in the other.

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Dana's book ["Two Years Before the Mast"] is a classic because it took no thought of being a classic. It is a plain, unvarnished tale, not loaded up with tedious descriptions. It is all action, a

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perpetual drama in which the sea, the winds, the seamen, the sails — mainsail, main royal, foresail — play the principal parts.

There is no book depicting life on the sea to compare with it. Lately I have again tried to find the secret of its charm. In the first place, it is a plain, unvarnished tale, no attempt at fine writing in it. All is action from cover to cover. It is full of thrilling, dramatic scenes. In fact, it is almost a perpetual drama in which the sea, the winds, the storms, the sails, and the sailors play their parts. Each sail, from the smallest to the greatest, has its own character and its own part to play; sometimes many of them, sometimes few are upon the stage at once. Occasionally all the canvas was piled on at once, and then what a sight the ship was to behold! Scudding under bare poles was dramatic also.

The life on board ship in those times — its humor, its tedium, its dangers, its hardships — was never before so vividly portrayed. The tyranny and cruelty of sea-captains, the absolute despotism of that little world of the ship's deck, stand out in strong relief. Dana had a memory like a phonographic record. Unless he took copious notes on this journey, it is incredible how he could have made it so complete, so specific is the life of each day. The reader craves more light on one point — the size of the ship, her length and tonnage. In

setting out on the homeward journey they took aboard a dozen sheep, four bullocks, a dozen or more pigs, three or four dozen of poultry, thousands of dressed and cured hides, as well as fodder and feed for the cattle and poultry and pigs. The vessel seemed elastic; they could always find room for a few thousand more hides, if the need arose. The hides were folded up like the leaves of a book, and they invented curious machinery to press in a hundred hides where one could not be forced by hand. By this means the forty thousand hides were easily disposed of as part of the home cargo.

The ship becomes a living being to the sailors. The Alert was so loaded, her cargo so steved in, that she was stiff as a man in a strait-jacket. But the old sailors said: "Stand by. You'll see her work herself loose in a week or two, and then she'll walk up to Cape Horn like a race-horse."

It is curious how the sailors can't work together without a song. "A song is as necessary to a sailor as the drum and fife are to the soldier. They can't pull in time, or pull with a will, without it." Some songs were much more effective than others. "Two or three songs would be tried, one after the other, with no effect — not an inch could be got upon the tackles, when a new song struck up seemed to hit the humor of the moment and drove the tackles two blocks at once. 'Heave round, hearty!' 'Captain gone ashore!' and the like,

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might do for common pulls, but in an emergency, when we wanted a heavy, raise-the-dead pull, which would start the beams of the ship, there was nothing like 'Time for us to go!' 'Round the corner,' or 'Hurrah! Hurrah! my hearty bullies!'"

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The mind of the professional critic, like the professional logical mind, becomes possessed of certain rules which it adheres to on all occasions. There is a well-known legal mind in this country which is typical. A recent political opponent of the man says:

His is the type of mind which would have sided with King John against granting the Magna Charta; the type of mind which would have opposed the ratification of the Constitution of the United States because he would have found so many holes in it. His is the type of mind which would have opposed the Monroe Doctrine on the ground that it was dangerous. His is the type of mind which would have opposed the Emancipation Proclamation on the ground of taking away property without due process of law. His is the type of mind which would have opposed Cleveland's Venezuela message to England on the ground that it was unprecedented. His is the type of mind which did its best in 1912 to oppose Theodore Roosevelt's effort to make the Republican Party progressive.

Such a mind would have no use for Roosevelt, for instance, because Roosevelt was not bound by precedents, but made precedents of his own. The

typical critical mind, such as Arnold's, would deny the title of philosopher to a man who has no constructive talent, who could not build up his own philosophy into a system. He would deny another the title of poet because his verse has not the Miltonic qualities of simplicity, of sensuousness, of passion. Emerson was not a great man of letters, Arnold said, because he had not the genius and instinct for style; his prose had not the requisite wholeness of good tissue. Emerson's prose is certainly not Arnold's prose, but at its best it is just as effective.

It is a good idea of Santayana that "the function of poetry is to emotionalize philosophy."

How absurd, even repulsive, is the argument of "Paradise Lost"! yet here is great poetry, not in the matter, but in the manner.

"Though fallen on evil days, on evil days though fallen."
"To shun delights and live laborious days."

Common ideas, but what dignity in the expression!

Criticism is easy. When a writer has nothing else to do, he can criticize some other writer. But to create and originate is not so easy. One may say that appreciation is easy also. How many persons appreciate good literature who cannot produce it!

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The rash and the audacious are not the same. Audacity means boldness, but to be rash often means to be imprudent or foolhardy. When a little dog attacks a big dog, as so often happens, his boldness becomes rashness. When Charles Kingsley attacked Newman, his boldness turned out to be rashness.

Little wonder that in his essay on "Books" Emerson recommends Thomas à Kempis's "Imitation of Christ." Substitute the word Nature for God and Christ and much of it will sound very Emersonian. Emerson was a kind of New England Thomas à Kempis. His spirit and attitude of mind were essentially the same, only directed to Nature and the modern world. Humble yourself, keep yourself in the background, and let the over-soul speak. "I desire no consolation which taketh from me compunction." "I love no contemplation which leads to pride." "For all that which is high is not holy, nor everything that is sweet, good." "I had rather feel contrition, than be

In a fat volume of forty thousand quotations from the literature of all times and countries, com-

skilled in the definition of it." "All Scripture ought to be read in the spirit in which it was writ-

ten." How Emersonian all this sounds!

piled by some patient and industrious person, at least half of it is not worth the paper on which it is printed. There seem to be more quotations in it from Shakespeare than from any other poet, which is as it should be. There seem to be more from Emerson than from any other American poet. which again is as it should be. Those from the great names of antiquity—the Bible, Sadi, Cicero, Æschylus, Euripides, Aristotle, and others—are all worth while, and the quotations from Bacon, Newton, Addison, Locke, Chaucer, Johnson, Carlyle, Huxley, Tennyson, Goethe are welcome. But the quotations from women writers and poets, -Mrs. Hemans, Mrs. Sigourney, Jean Ingelow, and others, — what are they worth? Who would expect anything profound from J. G. Holland or Chapin, O. W. Holmes, or Alger, or Alcott, or Helps, or Dickens, or Lewes, or Froude, or Lowell? I certainly should not.

Such a selection is good to leaf over. Your thought may be kindled or fanned here and there. The subjects are arranged alphabetically, and embrace nearly all themes of human interest from ability to zephyrs. There is very little from Whitman, and, I think, only one quotation from Thoreau.

The death of Howells gave me a shock. I had known him long, though not intimately. He was my senior by only one month. It had been two

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vears or more since I had seen him. Last December I read his charming paper on "Eighty Years and After" and enjoyed it greatly. It is a masterpiece. No other American man of letters, past or present, could have done that. In fact, there has been no other American who achieved the allround literary craftsmanship that Mr. Howells achieved. His equal in his own line we have never seen. His felicity on all occasions was a wonder. His works do not belong to the literature of power. but to the literature of charm, grace, felicity. His style is as flexible and as limpid as a mountain rill. Only among the French do we find such qualities in such perfection. Some of his writings-"Their Wedding Journey," for instance - are too photographic. We miss the lure of the imagination. such as Hawthorne gave to all his pictures of real things. Only one of Howells's volumes have I found too thin for me to finish - his "London Films" was too filmy for me. I had read Taine's "London Notes" and felt the force of a different type of mind. But Howells's "Eighty Years and After" will live as a classic. Oh, the felicity of his style! One of his later poems on growing old ("On a Bright Winter's Day" it is called) is a gem.

IX

SUNDOWN PAPERS

RE-READING BERGSON

I am trying again to read Bergson's "Creative Evolution." with poor success. When I recall how I was taken with the work ten or more years ago, and carried it with me whenever I went from home, I am wondering if my mind has become too old and feeble to take it in. But I do not have such difficulty with any other of my favorite authors. Bergson's work now seems to me a mixture of two things that won't mix — metaphysics and natural science. It is full of word-splitting and conjuring with terms, and abounds in natural history facts. The style is wonderful, but the logic is not strong. He enlarges upon the inability of the intellect to understand or grasp Life. The reason is baffled. but sympathy and the emotional nature and the intuitions grasp the mystery.

This may be true, the heart often knows what the head does not; but is it not the intellect that tells us so? The intellect understands the grounds of our inability. We can and do reason about the limitations of reason. We do not know how mat-

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ter and spirit blend, but we know they do blend. The animals live by instinct, and we live largely in our emotions, but it is reason that has placed man at the head of the animal kingdom.

Bergson himself by no means dispenses with the logical faculty. Note his close and convincing reasoning on the development of the vertebrate eye, and how inadequate the Darwinian idea of the accumulation of insensible variations is to account for it. A closer and more convincing piece of reasoning would be hard to find.

Bergson's conception of two currents — an upward current of spirit and a downward current of matter — meeting and uniting at a definite time and place and producing life, is extremely fanciful. Where had they both been during all the geologic ages? I do not suppose they had been any where. How life arose is, of course, one of the great mysteries. But do we not know enough to see that it did not originate in this sudden spectacular way? — that it began very slowly, in unicellular germs?

At first I was so captivated by the wonderful style of M. Bergson, and the richness of his page in natural history, that I could see no flaws in his subject-matter, but now that my enthusiasm has cooled off a little I return to him and am looking closer into the text.

Is not Bergson guilty of false or careless reason-265

ing when he says that the relation of the soul to the brain is like that of a coat to the nail upon which it hangs? I call this spurious or pinchbeck analogy. If we know anything about it, do we not know that the relation of the two is not a mechanical or fortuitous one? and that it cannot be defined in this loose way?

"To a large extent," Bergson says, "thought is independent of the brain." "The brain is, strictly speaking, neither an organ of thought, nor of feeling, nor of consciousness." He speaks of consciousness as if it were a disembodied something floating around in the air overhead, like wireless messages. If I do not think with my brain, with what do I think? Certainly not with my legs, or my abdomen, or my chest. I think with my head, or the gray matter of my brain. I look down at the rest of my body and I say, This is part of me, but it is not the real me. With both legs and both arms gone, I should still be I. But cut off my head and where am I?

Has not the intelligence of the animal kingdom increased during the geologic ages with the increase in the size of the brain?

REVISIONS

I have little need to revise my opinion of any of the great names of English literature. I probably make more strenuous demands upon him who

aspires to be a poet than ever before. I see more clearly than ever before that sweetened prose put up in verse form does not make poetry any more than sweetened water put in the comb in the hive makes honey. Many of our would-be young poets bring us the crude nectar from the fields—fine descriptions of flowers, birds, sunsets, and so on—and expect us to accept them as honey. The quality of the man makes all the difference in the world. A great nature can describe birds and flowers and clouds and sunsets and spring and autumn greatly.

Dean Swift quotes Sir Philip Sidney as saying that the "chief life of modern versifying consists in rhyme." Swift agrees with him. "Verse without rhyme," he says, "is a body without a soul, or a bell without a clapper." He thinks Milton's "Paradise Lost" would be greatly improved if it had rhyme. This, he says, would make it "more heroic and sonorous than it is."

Unobtrusive rhyme may be a help in certain cases, but what modern reader would say that a poem without rhyme is a body without a soul? This would exclude many of the noblest productions of English literature.

BERGSON AND TELEPATHY

Bergson seems always to have been more than half-convinced of the truth of spiritualism. When we are already half-convinced of a thing, it takes

but little to convince us. Bergson argues himself into a belief in telepathy in this wise: "We produce electricity at every moment; the atmosphere is continually electrified; we move among magnetic currents. Yet for thousands of years millions of human beings have lived who never suspected the existence of electricity."

Millions of persons have also lived without suspecting the pull of the sun and moon upon us: or that the pressure of the atmosphere upon our bodies is fifteen pounds to the square inch; or that the coast of this part of the continent is slowly subsiding (the oscillations of the earth's crust); or without suspecting the incredible speed of the stars in the midnight sky; or that the earth is turning under our feet; or that electrons are shooting off from the candle or lamp by the light of which we are reading. There are assuredly more things in heaven and earth than are dreamed of in our philosophy, many of which we shall doubtless yet find out, and many more of which we shall never find out. Wireless messages may be continually going through our houses and our bodies, and through the air we breathe, and we never suspect them. Shall we, then, infer that the air around us is full of spirits of our departed friends? I hope it is, but I fail to see any warrant for the belief in this kind of reasoning. It does not lend color even to the probability, any more than it

does to the probability that we shall yet be able to read one another's thoughts and become expert mind-readers. Mind-reading seems to be a reality with a few persons, with one in many millions. But I cannot therefore believe in spiritualism as I believe in the "defeat of the Invincible Armada." Fleets have been defeated in all ages. Facts are amenable to observation and experiment, but merely alleged facts do not stand the laboratory tests.

If memory is not a function of the brain, of what is it a function? If "judgment, reasoning, or any other act of thought" are not functions of the brain, of what are they the functions? The scientific method is adequate to deal with all questions capable of proof or disproof. If we apply the scientific or experimental method to miracles, where does it leave them? Ask Huxley. Thought-transference is possible, but does this prove spiritualism to be true?

I know of a man who can answer your questions if you know the answers yourself, even without reading them or hearing you ask them. He once read a chemical formula for Edison which nobody but Edison had ever seen. I am glad that such things are possible. They confirm our faith in the reality of the unseen. They show us in what a world of occult laws and influences we live, but they tell us nothing of any other world.

METEORIC MEN AND PLANETARY MEN

THERE are meteoric men and there are planetary men. The men who now and then flash across our intellectual heavens, drawing all eyes for the moment, these I call meteoric men. What a contrast they present to the planetary men, who are slow to attract our attention, but who abide, and do not grow dim! Poets like Emerson. Whitman. and Wordsworth were slow to gain recognition, but the radiance of their names grows. I call such a poet as Swinburne meteoric, a poet of a certain kind of brilliant power, but who reads him now? Stephen Phillips with his "Marpessa" had a brief vogue, and then disappeared in the darkness. When I was a young man, I remember, a Scottish poet, Alexander Smith, published a "Life Drama," which dazzled the literary world for a brief period, but it is forgotten now. What attention Kidd's "Social Evolution" attracted a generation or more ago! But it is now quite neglected. It was not sound. When he died a few years ago there was barely an allusion to it in the public press. The same fate befell that talented man, Buckle, with his "Civilization in England." Delia Bacon held the ear of the public for a time with the Bacon-Shakespeare theory. Pulpit men like Joseph Cook and Adirondack Murray blazed out, and then were gone. Half a century ago or more

an Englishman by the name of M. F. Tupper published a book called "Proverbial Philosophy" which had a brief season of popularity, and then went out like a rush-light, or a blaze of tissue paper. Novels like Miss Sprague's "Earnest Trifler," Du Maurier's "Trilby," and Wallace's "Ben Hur" have had their little day, and been forgotten. In the art world the Cubists' crazy work drew the attention of the public long enough for it to be seen how spurious and absurd it was. Brownell's war poems turned out to be little more than brief fireworks. Joaquin Miller, where is he? Fifty years ago Gail Hamilton was much in the public eve, and Grace Greenwood, and Fanny Fern: and in Bohemian circles, there were Agnes Franz and Ada Clare, but they are all quite forgotten now.

The meteoric men would not appreciate President Wilson's wise saying that he would rather fail in a cause that in time is bound to succeed than to succeed in a cause that in time is bound to fail. Such men cannot wait for success. Meteoric men in politics, like Blaine and Conkling, were brilliant men, but were politicians merely. What fruitful or constructive ideas did they leave us? Could they forget party in the good of the whole country? Are not the opponents of the League of Nations of our own day in the same case—without, however, shining with the same degree

of brilliancy? To some of our Presidents—Polk, Pierce, Buchanan—we owe little or nothing. Roosevelt's career, though meteoric in its sudden brilliancy, will shine with a steady light down the ages. He left lasting results. He raised permanently the standard of morality in politics and business in this country by the gospel of the square deal. Woodrow Wilson, after the mists and clouds are all dispelled, will shine serenely on. He is one of the few men of the ages.

THE DAILY PAPERS

PROBABLY the worst feature of our civilization is the daily paper. It scatters crime, bad manners, and a pernicious levity as a wind scatters fire. Crime feeds upon crime, and the newspapers make sure that every criminally inclined reader shall have enough to feed upon, shall have his vicious nature aroused and stimulated. Is it probable that a second and a third President of the United States would ever have been assassinated by shooting, had not such notoriety been given to the first crime? Murder, arson, theft, peculation, are as contagious as smallpox.

Who can help a pitying or a scornful smile when he hears of a school of journalism, a school for promoting crime and debauching the manners and the conscience of the people? — for teaching the gentle art of lying, for manufacturing news when

there is no news? The pupils are taught, I suppose, how to serve up the sweepings from the streets and the gutters and the bar-rooms in the most engaging manner. They are taught how to give the great Public what it wants, and the one thing the great Public wants, and can never get enough of is any form of sensationalism. It clearly loves scandals about the rich, or anything about the rich, because we all want and expect to be rich, to outshine our neighbors, to cut a wide swath in society. Give us anything about the rich, the Public says; we will take the mud from their shoes; if we can't get that, give us the parings of their fingernails.

The inelastic character of the newspaper is a hampering factor — so many columns must be filled, news or no news. And when there is a great amount of important news, see how much is suppressed that but for this inelasticity would have been printed!

The professor at the school of journalism says: "I try to hammer it into them day after day that they have got to learn to get the news—that, whatever else a reporter can or cannot do, he is n't a reporter till he has learned to get the news." Hence the invasion of private houses, the bribery, the stealing of letters, the listening at keyholes, the craze for photographing the most sacred episodes, the betrayals of confidence, that the

newspapers are responsible for. They must get what the dear Public most likes to hear, if they have to scale a man's housetop, and come down his chimney. And if they cannot get the true story, they must invent one. The idle curiosity of the Public must be satisfied.

Now the real news, the news the Public is entitled to, is always easy to get. It grows by the wayside. The Public is entitled to public news, not to family secrets; to the life of the street and the mart, not to life behind closed doors. In the dearth of real news, the paper is filled with the dust and sweepings from the public highways and byways, from saloons, police courts, political halls—sordid, ephemeral, and worthless, because it would never get into print if there were real news to serve up.

Then the advertising. The items of news now peep out at us from between flaming advertisements of the shopmen's goods, like men on the street hawking their wares, each trying to outscream the other and making such a Bedlam that our ears are stunned.¹

¹ [This fragment is hardly representative of the attitude of Mr. Burroughs toward our worthy dailies, and, could he have expanded the article, it would have had in its entirety a different tone. He lived on the breath of the newspapers; was always eager for legitimate news; and was especially outspoken in admiration of the superb work done by many newspaper correspondents during the World War. Furthermore, he was himself always most approachable and friendly to the reporters,

THE ALPHABET

Until we have stopped to think about it, few of us realize what it means to have an alphabet the combination of a few straight lines and curves which form our letters. When you have learned these, and how to arrange them into words, you have the key that unlocks all the libraries in the world. An assortment and arrangement of black lines on a white surface! These lines mean nothing in themselves; they are not symbols, nor pictures, nor hieroglyphics, yet the mastery of them is one of the touchstones of civilization. The progress of the race since the dawn of history, or since the art of writing has been invented, has gone forward with leaps and bounds. The prehistoric races, and the barbarous races of our own times. had and have only picture language.

The Chinese have no alphabet. It is said that they are now accepting a phonetic alphabet. The Chinese system of writing comprises more than forty thousand separate symbols, each a different word. It requires the memorizing of at least three thousand word-signs to read and write their

complaining, however, that they often failed to quote him when he took real pains to help them get things straight; while they often insisted on emphasizing sensational aspects, and even put words in his mouth which he never uttered. But the truth is, he valued the high-class newspapers, though regarding even them as a two-edged sword, since their praiseworthy efforts are so vitiated by craze for the sensational. — C. B.]

language. The national phonetic script is made up of sixty distinct characters that answer to our twenty-four. These characters embrace every verbal sound of the language, and in combination make up every word. The progress of China has been greatly hampered by this want of an alphabet.

Coleridge says about the primary art of writing: "First, there is mere gesticulation, then rosaries, or wampum, then picture language, then hieroglyphics, and finally alphabetic letters," — the last an evolution from all that went before. But there is no more suggestion of an alphabet in the sign language of the North American Indian than there is of man in a crinoid.

THE REDS OF LITERATURE

A class of young men who seem to look upon themselves as revolutionary poets has arisen, chiefly in Chicago; and they are putting forth the most astonishing stuff in the name of free verse that has probably ever appeared anywhere. In a late number of "Current Opinion," Carl Sandburg, who, I am told, is their chosen leader, waves his dirty shirt in the face of the public in this fashion:

[&]quot;My shirt is a token and a symbol more than a cover from sun and rain,

My shirt is a signal and a teller of souls,

I can take off my shirt and tear it, and so make a ripping razzly noise, and the people will say, 'Look at him tear his shirt!'

"I can keep my shirt on,
I can stick around and sing like a little bird, and look 'em
all in the eye and never be fazed,
I can keep my shirt on."

Does not this resemble poetry about as much as a pile of dirty rags resembles silk or broadcloth? The trick of it seems to be to take flat, unimaginative prose and cut it up in lines of varying length, and often omit the capitals at the beginning of the lines — "shredded prose," with no "kick" in it at all. These men are the "Reds" of literature. They would reverse or destroy all the recognized rules and standards upon which literature is founded. They show what Bolshevism carried out in the field of poetry, would lead to. One of them who signs himself H. D. writes thus in the "Dial" on "Helios":

"Helios makes all things right—night brands and chokes, as if destruction broke over furze and stone and crop of myrtle-shoot and field-wort, destroyed with flakes of iron, the bracken-stone, where tender roots were sown blight, chaff, and wash of darkness to choke and drown.

"A curious god to find,
yet in the end faithful;
bitter, the Kyprian's feet —
ah, flecks of withered clay,
great hero, vaunted lord —
ah, petals, dust and windfall
on the ground — queen awaiting queen."

What it all means — who can tell? It is as empty of intelligent meaning as a rubbish-heap. Yet these men claim to get their charter from Whitman. I do not think Whitman would be enough interested in them to feel contempt toward them. Whitman was a man of tremendous personality, and every line he wrote had a meaning, and his whole work was suffused with a philosophy as was his body with blood.

These Reds belong to the same class of inane sensationalists that the Cubists do; they would defy in verse what the Cubists defy in form.

I have just been skimming through an illustrated book called "Noa Noa," by a Frenchman, which describes, or pretends to describe, a visit to Tahiti. There is not much fault to be found with it as a narrative, but the pictures of the natives are atrocious. Many of the figures are distorted, and all of them have a smutty look, as if they had been rubbed with lampblack or coal-dust. There is not one simple, honest presentation of the natural human form in the book. When the Parisian becomes a degenerate, he is the most degenerate of all - a refined, perfumed degenerate. A degenerate Englishman may be brutal and coarse, but he could never be guilty of the inane or the outrageous things which the Cubists, the Imagists, the Futurists, and the other Ists among the French have turned out. The degenerate Frenchman is like

our species of smilax which looks fresh, shining, and attractive, but when it blooms gives out an odor of dead rats.

I recently chanced upon the picture of a kneeling girl, by one of the Reds in art, a charcoal sketch apparently. It suggests the crude attempts of a child. The mouth is a black, smutty hole in the face, the eyes are not mates, and one of them is merely a black dot. In fact, the whole head seems thrust up into a cloud of charcoal dust. The partly nude body has not a mark of femininity. The body is very long and the legs very short, and the knees, as they protrude from under the drapery, look like two irregular blocks of wood.

To falsify or belie nature seems to be the sole aim of these creatures. The best thing that could happen to the whole gang of them would be to be compelled to go out and dig and spade the earth. They would then see what things are really like.

THE EVOLUTION OF EVOLUTION

It is interesting to note that the doctrine of evolution itself has undergone as complete an evolution as has any animal species with which it deals. We find the germ of it, so to speak, in the early Greek philosophers and not much more. Crude, half-developed forms of it begin to appear in the eighteenth century of our era and become more and more developed in the nineteenth, till they

approximate completion in Darwin. In Geoffrov Saint-Hilaire in 1795 there are glimpses of the theory, but in Lamarck, near the beginning of the nineteenth century, the theory is so fully developed that it anticipates Darwin on many points: often full of crudities and absurdities, yet Lamarck hits the mark surprisingly often. In 1813 Dr. W. C. Wells, an Englishman, read a paper before the Royal Society in London that contains a passage that might have come from the pages of Darwin. In the anonymous and famous volume called "Vestiges of Creation," published in 1844, the doctrine of the mutability of species is forcibly put. Then in Herbert Spencer in 1852 the evolution theory of development receives a fresh impetus, till it matures in the minds of Darwin and Wallace in the late fifties. The inherent impulse toward development is also in Aristotle. It crops out again in Lamarck, but was repudiated by Darwin.

FOLLOWING ONE'S BENT

I have done what I most wanted to do in the world, what I was probably best fitted to do, not as the result of deliberate planning or calculation, but by simply going with the current, that is, following my natural bent, and refusing to run after false gods. Riches and fame and power, when directly pursued, are false gods. If a man deliberately says to himself, "I will win these things,"

he has likely reckoned without his host. His host is the nature within and without him, and that may have something to say on the subject. But if he says, "I will do the worthy work that comes to my hand, the work that my character and my talent bring me, and I will do it the best I can," he will not reap a barren harvest.

So many persons are disappointed in life! They have had false aims. They have wanted something for nothing. They have listened to the call of ambition and have not heeded the inner light. They have tried short cuts to fame and fortune, and have not been willing to pay the price in self-denial that all worthy success demands. We find our position in life according to the specific gravity of our moral and intellectual natures.

NOTES ON THE PSYCHOLOGY OF OLD AGE 1

The physiology of old age is well understood—general sluggishness of all the functions, stiffness of the joints, more or less so-called rheumatism, loss of strength, wasting tissues, broken sleep, failing hearing and eyesight, capricious appetite, and so on. But the psychology of old age is not so easily described. The old man reasons well, the judgment is clear, the mind active, the conscience alert, the interest in life unabated. It is the memory

¹ [These fragments, which Mr. Burroughs intended to expand into an article, were among the very last things he wrote.— C. B.]

that plays the old man tricks. His mind is a storehouse of facts and incidents and experiences. but they do not hold together as they used to: their relations are broken and very uncertain. He remembers the name of a person, but perhaps cannot recall the face or presence; or he remembers the voice and presence, but without the name or face. He may go back to his school-days and try to restore the faded canvas of those distant days. It is like resurrecting the dead; he exhumes them from their graves: There was G-: how distinctly he recalls the name and some incident in his school life, and that is all. There was B ---, a name only. There was R-, and the memory of the career he had marked out for himself and his untimely death through a steamboat accident: but of his looks, his voice - not a vestige! It is a memory full of holes, like a net with many of the meshes broken. He recalls his early teachers, some of them stand out vividly - voice, look, manner - all complete. Others are only names associated with certain incidents in school.

Names and places with which one has been perfectly familiar all his life suddenly, for a few moments, mean nothing. It is as if the belt slipped, and the wheel did not go round. Then the next moment, away it goes again! Or, shall we call it a kind of mental anæsthesia, or mental paralysis? Thus, the other day I was reading

something about Georgetown, South America. I repeated the name over to myself a few times. "Have I not known such a place some time in my life? Where is it? Georgetown? Georgetown?" The name seemed like a dream. Then I thought of Washington, the Capital, and the city above it, but had to ask a friend if the name was Georgetown. Then suddenly, as if some chemical had been rubbed on a bit of invisible writing, out it came! Of course it was Georgetown. How could I have been in doubt about it? (I had lived in Washington for ten years.)

So we say, old age may reason well, but old age does not remember well. This is a commonplace. It seems as if memory were the most uncertain of all our faculties.

Power of attention fails, which we so often mistake for deafness in the old. It is the mind that is blunted and not the ear. Hence we octogenarians so often ask for your question over again. We do not grasp it the first time. We do not want you to speak louder, we only need to focus upon you a little more completely.

Of course both sight and hearing are a little blunted in old age. But for myself I see as well as ever I did, except that I have to use spectacles in reading; but nowadays the younger observers hear the finer sounds in nature that sometimes escape me.

Some men mellow with age, others harden, but the man who does not in some way ripen is in a bad way. Youth makes up in sap and push what it lacks in repose.

To grow old gracefully is the trick.

To me one of the worst things about old age is that one has outlived all his old friends. The Past becomes a cemetery.

"As men grow old," said Rochefoucauld, "they grow more foolish and more wise" — wise in counsel, but foolish in conduct. "There is no fool like an old fool," said Tennyson, but it is equally true that there is no fool like the young fool. If you want calm and ripe wisdom, go to middle age.

As an octogenarian, I have found it interesting to collate many wise sayings of many wise men on youth and age.¹

Cicero found that age increased the pleasure of conversation. It is certainly true that in age we do find our tongues, if we have any. They are unloosed, and when the young or the middle-aged sit silent, the octogenarian is a fountain of conversation. In age one set of pleasures is gone and another takes its place.

Emerson published his essay on "Old Age" while he was yet in the middle sixties, and I recall

 $^{^1\,[{\}rm Here}$ followed several pages of quotations from the ancients and moderns. — C. B.]

that in the "Emerson-Carlyle Correspondence" both men began to complain of being old before they were sixty. Scott was old before his time, and Macaulay too. Scott died at sixty-one, Macaulay at fifty-nine, Tennyson at eighty-three, Carlyle at eighty-six, Emerson at seventy-nine, Amiel at sixty.

I have heard it said that it is characteristic of old age to reverse its opinions and its likes and dislikes. But it does not reverse them; it revises them. If its years have been well spent, it has reached a higher position from which to overlook life. It commands a wider view, and the relation of the parts to the whole is more clearly seen. . . .

"Old age superbly rising" - Whitman.

Age without decrepitude, or remorse, or fear, or hardness of heart!

FACING THE MYSTERY

I wish there were something to light up the grave for me, but there is not. It is the primal, unending darkness. The faith of all the saints and martyrs does not help me. I must see the light beyond with my own eyes. Whitman's indomitable faith I admire, but cannot share. My torch will not kindle at his great flame. From our youth up our associations with the dead and with the grave are oppressive. Our natural animal instincts get the better of us. Death seems the great catas-

trophe. The silver cord is loosened, and the golden bowl is broken. The physical aspects of death are unlovely and repellent. And the spiritual aspects — only the elect can see them. Our physical senses are so dominant, the visible world is so overpowering, that all else becomes as dreams and shadows.

I know that I am a part of the great cosmic system of things, and that all the material and all the forces that make up my being are as indestructible as the great Cosmos itself — all that is physical must remain in some form. But consciousness, the real Me, is not physical, but an effect of the physical. It is really no more a thing than "a child's curlicue cut by a burnt stick in the night," and as the one is evanescent, why not the other?

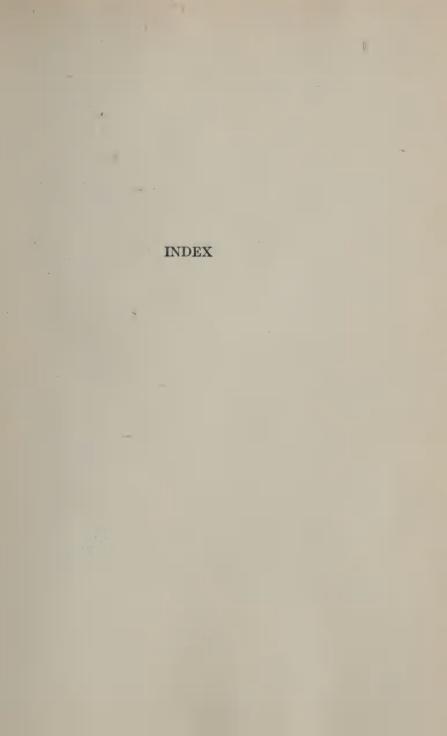
Nature is so opulent, so indifferent to that we hold most precious, such a spendthrift, evokes such wonders from such simple materials! Why should she conserve souls, when she has the original stuff of myriads of souls? She takes up, and she lays down. Her cycles of change, of life and death, go on forever. She does not lay up stores; she is, and has, all stores, whether she keep or whether she waste. It is all the same to her. There is no outside, no beyond, to her processes and possessions. There is no future for her, only an everlasting present. What is the very bloom and

fragrance of humanity to the Infinite? In the yesterday of geologic time, humanity was not. In the to-morrow of geologic time, it will not be. The very mountains might be made of souls, and all the stars of heaven kindled with souls, such is the wealth of Nature in what we deem so precious, and so indifferent is she to our standards of valuation.

This I know, too: that the grave is not dark or cold to the dead, but only to the living. The light of the eye, the warmth of the body, still exist undiminished in the universe, but in other relations, under other forms. Shall the flower complain because it fades and falls? It has to fall before the fruit can appear. But what is the fruit of the flower of human life? Surely not the grave, as the loose thinking of some seem to imply. The only fruit I can see is in fairer flowers, or a higher type of mind and life that follows in this world, and to which our lives may contribute. The flower of life has improved through the ages - the geologic ages; from the flower of the brute, it has become the flower of the man. You and I perish. but something goes out, or may go out, from us that will help forward a higher type of mankind. To what end? Who knows? We cannot crossquestion the Infinite. Something in the universe has eventuated in man, and something has profited by his ameliorations. We must regard him as a legitimate product, and we must look upon death

as a legitimate part of the great cycle — an evil only from our temporary and personal point of view, but a good from the point of view of the whole.

THE END





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